Developments at CMS
Thomas E. Hamilton and Judith Yost, M.A., M.T.

DR. TUCKSON: Thank you. So you'll stay there, or nearby, and we're going to turn to Tom Hamilton, director of Survey and Certification Group for CMS, and Judy Yost, director of the Division of Labs and Acute Care Services for the Centers for Medicaid Services.

Now, Tom, I think you're going first. Is that right? Both you and Judy. However you weave it into what you're going to present, can you please also highlight, when you get to that part of your presentation, what you see as the gap and help us to understand whether you're on the -- well, let me just leave it at that. So you understand where the question is, and the context of this question for us who are not as sharp as you are about this is given that your job is to protect the public, make it simple for us to tell us whether all is well and we should return to our homes or whether there is something really important that we should attend to. But we just need you to be clear about all this after you've made the formal presentation, which I'm sure will be clear.

MR. HAMILTON: Thanks very much, and thank you for inviting us. I'm Thomas Hamilton. I'm the director of the Survey and Certification Group, and Judy Yost I think you all know. She heads up our Division of Clinical Laboratory Amendments.

What we're going to do is switch off a little bit and walk through the PowerPoint. Judy is going to start with a little background on the Clinical Laboratory Improvement Amendments in order to put this into context, because there is some misunderstanding about what CLIA can and cannot do and about some of our priorities. So we'll start with the background, and then I'll come in in the middle and talk a little bit about one of the controversies of the day, which is whether or not there will be a genetic specialty regulation promulgated, and then Judy will pick up again and talk a little bit more about CLIA, and then we'll open it up, if that's all right with you.

MS. YOST: And good afternoon as well. This is near the end of the day but this is a really exciting topic. Again, I think as Thomas indicated, these are the things we're going to walk through, and also to provide you an update on what happened at that hearing regarding direct-to-consumer testing earlier this summer. We've also been asked to provide a little synopsis of what the New York State Genetic Testing Program does under their state licensure law as well, and then we'll move forward.

Just as Reed so aptly did, he provided you some background on the history, and I think you can't go forward without knowing what that is. But I think before I begin, I think it's very important to say that CMS' goal in administering CLIA is to ensure the highest quality testing for all types of testing, because as many of you know, 70 percent of all health care decisions are based on a laboratory result.

The final CLIA regulations were published back in 1992 and do cover all testing in the United States, including genetic testing. A task force was convened by the NIH and Department of Energy back in 1997. They released a report that did not provide specific recommendations but did say that CLIA should be augmented. Following that recommendation and at the request of the Secretary, CMS and FDA and CDC actually worked offline together to discuss how we would implement genetic testing oversight under new regulations and what tasks lie in front of us and how we could work together to accomplish them.

Based on that recommendation, however, the CLIA Act committee, which is our advisory committee, the CLIA technical advisory committee, did convene a work group of experts who

subsequently provided a whole listing of recommendations to us regarding the changes that should be made to CLIA for genetic testing. Of course, SACGT, which was the precursor of your committee, did also support those recommendations. Then subsequent to that, CDC did publish a Notice of Intent. What that Notice of Intent did was to list that recommendations and to also list the existing CLIA requirements that corresponded to those so that individuals could then comment as to whether that particular improvement might be needed.

Interestingly enough, the comments to that Notice of Intent were pretty mixed. Some people were for changes to CLIA, others were not. But as a result, CLIAC did revise its recommendations in 2001.

Following that, CMS actually published final regulations. So even though you say nothing has been done to CLIA in 20 years, actually we published a rather comprehensive final quality control regulation in 2003, which actually strengthened quality control for all testing, and it also included some of the recommendations from CLIAC as well. Some of those things that were added to that QC regulation from the CLIAC included quality control for PCR testing, unidirectional work flow to prevent specimen contamination, enhanced confidentiality requirements, as well as enhanced result reporting requirements.

As a result of that Notice of Intent, however, there were still a number of open issues, some of which are still unresolved. Also, the CLIAC's recommendations were beyond the scope of CLIA. They included such things as patient consent, which of course is not included under CLIA. Because the field is relatively new and dynamic, and I think we all heard that today, there is concern internally and externally about perhaps writing prescriptive requirements that could, in fact, limit the laboratories from using new tests in their technologies.

I'd also like to, because I think I did myself a disservice when I first presented this to yourselves and to other committees as far as a summary and an overview of CLIA. I promise I will not go into excruciating detail, but I would like to show you a little bit more of the scope of CLIA because I don't think I've really done that before. I have to say that this audience is relatively unique in that you are folks who want regulation. Most of the people I talk to are people who don't want us there, never want to see us again, and so the minimum burden that we can provide is all they want to hear about. So in that respect, I've always been relatively conservative about providing an overview of the regulations. So today I'd like to give you just a little bit more detail, not to describe it but to show it to you at least.

The first and foremost requirement that I'd like to talk about is quality control. Quality control is easy to describe. It's a real-time evaluation of test quality because it's something you do every day. You want to check that your test is working before you report your results. But that's all we ever really talked about. We didn't really say that -- quality control includes all of these things, not just the fact that you're running something every day to check the test, but you have to do all these other procedures under CLIA currently in order to show that the test is working. So it's very important to mention that.

The last thing on the list are the specialty requirements. I think it's also important to note that these are actually created to correspond to Medicare payment codes. That was the reason the laboratory specialties were created in the first place, things like hematology and microbiology and so forth. But as you see as we go on through this presentation, you'll see that they only are a very small piece of the CLIA regulations. Sometimes there will be a specific quality control requirement for something like, under hematology, coagulation tests, because they are unique. So a certain type of QC is required for those tests. So they're very limited in scope.

Currently there is no genetic testing specialty, as was previously stated. However, tests that are considered genetic are actually currently dispersed throughout all the different laboratory specialties that exist, although because we did strengthen quality control in 2003, we made it from anything the manufacturer could call a quality control to something very specific and very stringent, two levels of external QC every day of testing. We felt that the need to have as many specialties as previously existed was no longer necessary because we had strengthened everything overall. So the number of specialties has actually -- instead of adding, which we've never done, they've actually been reduced over time.

In addition, I think I'd like to also mention that (inaudible) information that indicated that there were laboratories that did not have specialty certifications. We went through the CLIA database and actually discovered that there are no laboratories existing currently that do not have some type of specialty certification and are doing non-waive types of testing. The interesting factor is that CLIA, as you know, is user fee-funded. Therefore, the fees that the labs are assessed under the CLIA program to pay for its costs actually use that specialty information to calculate the fees. So there's an absolute need for us. We need our money to operate this program, and so thereby every laboratory has a specialty certification.

Again, quality control tells you if the test is working each day before you report your patient results. It should monitor the test operator, it should monitor the actual analysis, the procedure that the lab is doing, and also the environment where the test is being performed. For example, if the lab is too hot, many test systems don't work and provide incorrect results. So it is important to perform that quality control.

The next regulation or requirement or standard I'd like to talk about is proficiency testing. Proficiency testing is a measure of long-term accuracy of the laboratory testing. It's not something that you can use on a daily basis because you don't get your PT results from your provider for three months. So if those test results went out and you didn't do any quality control, PT isn't going to help you here. It's just going to tell you from afar that the test system is working on an ongoing basis, and you don't need to have a specialty in order to perform proficiency testing. All non-waived laboratories have to perform some fashion of proficiency testing.

Currently in the regulations there are 83 tests listed that must have formal PT performed. However, there are at least a thousand different tests that a laboratory might wish to perform, and CLIA has a corollary requirement for those types of tests because twice a year the laboratory has to do a check to ensure the accuracy of those tests. So you have to do one or the other. You can't escape from PT, but you can see that for the most part, most tests do not have formal PT required under CLIA in the regulations currently.

In addition, our surveyors look at that. They look to see what the lab is actually doing twice a year. They're not just looking at the PT results that you get from a PT program. They're looking to see what the lab is actually doing, and if they're not doing it right or they're not doing it at all, they cite those deficiencies. I actually pulled some data, and it's cited quite frequently. So they're clearly looking.

DR. TUCKSON: Judy, let me just make sure of one thing here. Are these genetic tests, or is this non-genetics?

MS. YOST: This is CLIA. This is CLIA overall.

DR. TUCKSON: I just want to specifically know, does this relate to genetics?

MS. YOST: No. I need to provide you a context for where you're going.

Also, we checked with the College of American Pathologists and ACMG because they jointly have a proficiency testing program currently for 46 categories of genetic testing, proficiency testing right now, and there are approximately 16 to 300 laboratories involved in those programs. We understand that there are about 600 laboratories in the United States that do genetic testing currently. However, again, because there is no formal PT required for genetic testing right now in the CLIA regulations, the labs have to perform the twice-yearly evaluation. So a statement that a certain percentage of labs are enrolled in PT has no relevance for compliance with CLIA, because it's not required.

Also, we saw that there was a recent article in which potential errors were considered to be possible problems in genetic testing in some laboratories. However, in evaluating the data more closely, it indicates that most of the problems that were self-reported and certainly qualified as being potential were actually in the pre- and post-analytic phase of testing. Thereby, specific requirements for genetic testing would not have affected these errors at all. The requirements that would apply would be the pre- and post-analytic requirements already in place in CLIA. Pre- and post-analytic requirements are those things that refer to specimen collection and processing and result reporting.

In addition, you can see that there are also requirements for record-keeping, confidentiality, specimen integrity and labeling, and for handling of complaints.

Because most genetic tests are considered high complexity, there are a number of required positions in the laboratory for all high-complexity tests currently. These include the laboratory director, who has the overall responsibility under CLIA to ensure the quality of testing. In addition to responsibilities under CLIA, there are educational, experiential and training requirements for each position listed under CLIA as well. The responsibilities correspond for the laboratory director to all of the CLIA quality standards. In many cases, the laboratory director is cited as a deficiency during a survey if there are significant quality problems in the laboratory. The clinical consultant is responsible for ensuring that appropriate tests are ordered and result interpretations are correct. The technical supervisor has the responsibility for the scientific and technical aspects of the laboratory's testing and the selection of appropriate tests. The general supervisor is responsible for the day to day oversight in the laboratory.

Also, each individual in the laboratory who manages and does testing must have competency checked once each year, and when a new test is added, that's twice per year. So competency is not proficiency testing.

Last but most importantly, under CLIA there is quality assurance. This is an ongoing mechanism, an overall plan that the laboratory must have to assess the quality of its own testing, to solve its own problems, to communicate with its clients, its patients, its staff. It encompasses all of the CLIA quality standards. I guess you'd call it a package deal, and that's why I have the package there, because if you take quality control and proficiency testing, personnel requirements, and record-keeping, those four sides and wrap them in a box, that provides your quality assurance.

All laboratories that perform non-waive tests, including genetic tests, are surveyed every two years. If there is a complaint alleged against the laboratory, that is followed up immediately. The survey process is outcome oriented, and we utilize an educational approach. That is, any laboratory which does not meet a requirement has a deficiency cited. However, the surveyor will clarify that requirement for the laboratory, offer resources to facilitate the compliance. The goal

here is to get the lab to do the right thing. Then the laboratory has the opportunity to correct the problem. If all else fails after several attempts, CLIA does have an armamentarium of sanctions that can and will be imposed against laboratories based on the seriousness of the problem and the scope of the problem. They range from fines from $10,000 a day to (inaudible) to Medicare reimbursement to losing your CLIA certificate.

CLIA, however, has an unusually high success rate in that the proportion of proposed sanctions when we warn the laboratory that we will do this if they don't correct their problems to impose sanctions is about 10 percent.

Again, the CLIA survey process is very effective. It looks at outcomes, meeting test results. It's interactive. We talk to the personnel in the laboratory who do the testing, who manage the laboratory. We observe testing throughout all phases of testing and review records as well. The QA program of the laboratory, which does encompass all of the quality standards, is the pivotal piece that really tells us that's the clue to how well this laboratory is doing.

Now Thomas Hamilton will address the answer to the question that you've all been waiting for today.

MR. HAMILTON: Let me begin with the question that Dr. Tuckson posed. Is there a problem? I have to confide in you that I'm probably not the best person to pose that question to because the Survey and Certification Group, we're the Grand Central Station where reports of medical misadventures from all over the country arrive daily. So we have a very distorted view of the American health care system. We're responsible for the onsite surveys of just about every type of Medicare-certified provider: hospitals, nursing homes, dialysis centers, hospices, and so on. Everywhere we look, there's a problem. So it's not so much is there a problem but rather what are the most effective ways to go about identifying and addressing the problems that do arise.

As we looked at the topic of whether or not there should be a regulation establishing a new genetic testing specialty and put a fair amount of work into that, when we take a rule through what's called our clearance process, it's an internal deliberation process involving the major agencies in the Department, and we ask ourselves a number of questions, we are obliged to establish positive answers to make the process a little simpler, three questions.

First, is there an absolute benefit to this particular rule? We might ask is there a problem for which the proposed rule is a remedy? Is it a significant problem? Does the rule, if it is a significant problem, effectively address that problem? And how strong is the evidence that suggests that the proposed rule will indeed effectively address the problem that's identified? This is where we first run into problems in terms of this particular issue on the regulation. To what extent is there evidence that there are problems that are not only soluble by a CLIA but currently unattended by CLIA?

When we look at this, one of the strongest arguments I think is the argument in favor of proficiency testing. A genetic testing specialty will not magically make proficiency tests available, and the way that CLIA is set up, CMS is not directed, authorized, funded to go out and create these tests. So I see statements in various communications saying that CMS has not established a test and is falling down on the job. The way the CLIA law is structured, it's the professional societies, the professions that establish those tests and come forward, and CMS approves those.

So right now, if there are more than 1,000 genetic tests, there are only a few proficiency tests available, as Judy described. We ran into this problem, and this will illustrate the issue well, I think, in the 1988 version of the CLIA program. Cytology proficiency testing for gynecological examination, Pap smear screening, was required. It was not until 2005 that CMS was actually successful at getting that mandated nationwide. Now, why was that? The reason was that nobody made the investment and came forward with an approvable Pap smear screening proficiency testing program, and there was a fair amount of controversy over this when we did implement it.

Basically, we found ourselves in CMS at the mercy, if you will, of the private sector coming forward with an acceptable and approvable test that met the requirements of the law, and there has been a fair amount of controversy. Ironically, we haven't heard a whole lot from the advocacy organizations. I don't think this advisory body took up that issue, but for the first time in history, in 2005, 12,000 cytotechnologists and pathologists were individually tested for proficiency in reading Pap smears. We think that that was a very significant advance and very much needed when we began to look at the results.

When we got those results in, we found that individuals had, by regulation, up to four opportunities to pass the test. Approximately 7 percent of the cytotechnologists failed to pass the test on the first try, or put in reverse, 93 percent passed and 7 percent did not. For those who took the test the second time, only 3 percent failed. So overall, those results weren't too bad. Seven percent failing is still a problem but not overwhelmingly so. However, when we looked at the failure rate of pathologists who work without a cytotech, the failure rate on the first test was 33 percent, and on the second test it was 29 percent. It did not go down very much. We think that is a problem, and we've devoted considerable energies to addressing the educational and the testing aspects of this so that improved performance can be achieved going forward. But in the process, we had significant opposition to that. In fact, one house of Congress passed a bill that would have, if it had been passed by the other side, suspended the testing.

So I raise this as an example of an area in which there has been a significant problem, there has been assertive action on our part to try to rectify the problem, but you can see the gap in between 1988 and 2005, the gap that persisted because no organization came forward with a statutorily approvable proficiency test for Pap smear screening. So we could establish a genetic testing specialty, but it simply does not make those proficiency tests appear.

The second burden of any proposed regulation is not just the absolute benefit but how does the benefit compare against the costs? Do the benefits exceed the costs, and do the benefits outweigh alternative approaches that might be less costly, more effective, or faster to address the problem?

When we look at this area, one of the issues is laboratories are already covered by the Laboratory Improvement Amendments, and that includes genetic testing laboratories. There's also some objections we received as we looked at this because there's an existing set of specialties and subspecialties, and the genetic testing would need to be teased out of that. So that was a concern to some people, and we also acknowledged that going through the rulemaking process is a long endeavor. We first propose the Notice of Proposed Rulemaking according to the Federal Administrative Procedures Act, we have to solicit and respond to every comment, and only then does the final rule become published.

So we asked ourselves what can we do that would be faster and what could we do that may be just as or more effective. But those are the three major tests that any proposed rule would have to satisfy, and that's where the genetic testing proposed regulation runs into problems. If you think

otherwise, we certainly invite your comments, your thoughts, and your evidence with regard to each of those issues. What we have been doing is going back and trying to identify how the existing CLIA regulations and law can be used as effectively as possible to address any issues that show up, and there are issues. We found some laboratories doing genetic testing did not think that they were subject to CLIA, and we've been screening those, identifying those. We've been working with the FDA and CDC to pool our collective surveillance. Whenever we find a laboratory that does not have a CLIA certificate, or has a CLIA certificate but not for the genetic testing, then we direct the state survey agencies to get out there, and we've got numerous examples of where we found some of those laboratories and have gone out on site. If they refused entry or refused to apply for a CLIA certificate, we threatened them with the appropriate sanctions and have moved forward.

We also have benefitted from some of the reconnaissance and discussions that have occurred. The Genetics Policy Center at Johns Hopkins, for example, did a survey. We looked at that survey, and the survey found that 8 percent of the laboratories that were not doing proficiency testing were also not doing the alternative quality control. The portion of the regulations that Judy was citing that do apply to genetic testing is the requirement that every lab have a quality control system. Under 42 CFR 493.801, it says for those tests performed by the laboratory that are not required to have proficiency testing, basically, a laboratory must establish and maintain the accuracy of its testing procedures. The responsibility is on the laboratory to make sure that it has appropriate internal controls to assure the accuracy of the testing. Another part of the regulation goes on to say at least twice annually, the laboratory must verify the accuracy of any test or procedure that is not subject to proficiency testing, and it can do this through various methods such as sample exchanges with other laboratories.

To the extent that genetic testing laboratories are not fulfilling those responsibilities that are required right now in the regulations, we want to identify those laboratories and make sure that they are brought on board into full compliance with the regulation.

The third burden that we have to satisfy is even if a regulation is important in its own right, even if it has comparative advantage compared to other regulations, how does it fit in the overall scheme of priorities as we look at all the different regulations? We're in the process right now of trying to get out the patient rights regulation for all hospitals, millions and millions of people and struggling to meet the new timeline that Congress established before all regulation disappears, the three-year limit that Congress established.

So when the Department and CMS is looking at all the potential regulatory changes that we could effect that we've been studying and developing, the agency has to make a set of prioritization decisions. When CMS has gone through the process of looking at the evidence, looking at the urgency, and looking at the extent to which we might be able to address whatever issues are there through current regulations, then the final decision on the part of the agency was that we would put our efforts into applying and strengthening as much as possible the existing regulations and, in contrast to a proposed regulation, those actions can be done immediately.

So I hope this is useful in terms of some of the logic and the thought process that CMS engaged in as it considered this question of a genetic testing specialty. It's not that we didn't think the issues were unimportant. It is that we go through this process of looking at the available evidence, making the priority decisions, and then identifying alternative strategies that hopefully can get to the same or a better ultimate destination.

The next slide provides an example of some of the things that we've been doing, and we're very open and interested in whatever suggestions you might have for what we can do. But there are quite a few tools in the existing regulation that are quite useful.

I think at this point Judy was going to pick up on the conversation about the direct-to-consumer testing. But let me pause at this point and just see if you have any questions related to what I've just covered, because I know that this was a topic of great publicity, if not concern.

DR. TUCKSON: Thank you for that.

Let me just ask from a process point of view, Judy, what are you going to do with the remainder of your time again?

MS. YOST: Very little. I'm just going to provide the update on the GAO investigation on direct-to-consumer testing and the subsequent hearing that took place this summer, and a brief overview of the New York State Genetics Program under their state law.

DR. TUCKSON: Okay. So the New York State law thing, I'm thinking that maybe we ought to just deal with the questions that are on the table and come back to the New York State deal and the GAO deal. So I think you're right. Thank you for that.