Clinical Laboratory Improvement Advisory Committee (CLIAC)
May 30-31, 2001

Summary Report

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Committee Members
Dr. Toby L. Merlin, Chair
Dr. Ed Baker, Executive Secretary
Dr. George Birdsong
Dr. Joseph Campos
Dr. Patricia Charache
Dr. Brenta Davis
Dr. Andrea Ferreira-Gonzalez
Dr. Ronald Gagne
Dr. Barbara Goldsmith
Dr. Edward Hook
Ms. Cynthia Johns
Dr. Ronald Luff
Dr. Valerie Ng
Mr. Stewart Richardson
Dr. Lawrence Silverman
Dr. Lawrence Sturman
Dr. Roland Valdes
Dr. Alice Weissfeld

Ex Officio Members
Dr. Robert Martin
Dr. Steven Gutman
Ms. Judith Yost

Liaison Representative
Ms. Kay A. Setzer, AdvaMed

Centers for Disease Control and Prevention
Ms. Nancy Anderson
Ms. Diane Bosse
Ms. Carol Bigelow
Dr. Joe Boone
Dr. Bernard Branson
Dr. Bin Chen
Ms. Sharon Granade
Dr. Tom Hearn
Ms. Jerri Holmes
Ms. Stacey Holt
Ms. Marinda Logan
Dr. Ira Lubin
Mr. Kevin Malone
Dr. Adam Manasterski
Ms. Priscilla Patin
Ms. Anne Pollock
Dr. Charles Schable
Mr. Darshan Singh
Dr. Barbara Slade
Mr. Howard Eric Thompson
Ms. Pam Thompson
Ms. Rhonda Whalen

Clinical Laboratory Improvement Advisory Committee

The Secretary of Health and Human Services is authorized under Section 353 of the Public Health Service Act, as amended, to establish standards to assure consistent, accurate, and reliable test results by all clinical laboratories in the United States. The Secretary is authorized under Section 222 to establish advisory committees.

The Clinical Laboratory Improvement Advisory Committee (CLIAC) was chartered in February 1992 to provide scientific and technical advice and guidance to the Secretary and the Assistant Secretary for Health regarding the need for, and the nature of, revisions to the standards under which clinical laboratories are regulated; the impact on medical and laboratory practice of proposed revisions to the standards; and the modification of the standards to accommodate technological advances.

The Committee consists of 20 members, including the Chair. Members are selected by the Secretary from authorities knowledgeable in the fields of microbiology, immunology, chemistry, hematology, pathology, and representatives of medical technology, public health, clinical practice, and consumers. In addition, CLIAC includes three ex officio members, or designees: the Director, Centers for Disease Control and Prevention; the Commissioner, Food and Drug Administration; the Administrator, Centers for Medicare & Medicaid Services (formerly, Health Care Financing Administration); and such additional officers of the U.S. Government that the Secretary deems are necessary for the Committee to effectively carry out its functions. CLIAC will also include a non-voting liaison representative who is a member of AdvaMed (formerly, Health Industry Manufacturers Association) and such other non-voting liaison representatives that the Secretary deems are necessary for the Committee to effectively carry out its functions.

Due to the diversity of its membership, CLIAC is at times divided in the guidance and advice it offers to the Secretary. Even when all CLIAC members agree on a specific recommendation, the Secretary may not follow their advice due to other overriding concerns. Thus, while some of the actions recommended by CLIAC may eventually result in changes to the regulations, the reader should not infer that all of the advisory committeeÄs recommendations will be automatically accepted and acted upon by the Secretary.

CALL TO ORDER – INTRODUCTIONS/FINANCIAL DISCLOSURES

Dr. Toby Merlin, CLIAC Chair, called the CLIAC meeting to order, and reviewed the role of this Advisory Committee. Dr. Robert Martin, Director, Division of Laboratory Systems (DLS), Public Health Program Practice Office (PHPPO), Centers for Disease Control and Prevention (CDC), welcomed CLIAC members. All CLIAC members made self-introductions and disclosure statements of their relevant financial interests as they relate to topics to be discussed during the CLIAC meeting.

PRESENTATIONS AND COMMITTEE DISCUSSION

Centers for Medicare & Medicaid Services (CMS), formerly Health Care Financing Administration (HCFA) Update

Expanded Certificate of Waiver (COW)/Provider-Performed Microscopy Procedures (PPMP) Studies **Addendum A**

Ms. Judy Yost, Director, Division of Outcomes and Improvement (DOI), Center for Medicaid and State Operations (CMSO), introduced Ms. Daralyn Hassan, DOI, CMSO, who presented the findings from the CMS COW/PPMP Project. Ms. Hassan gave a brief background of the project, describing the pilot study of a random sample of 100 waived and PPMP laboratories in Colorado and Ohio, and the expanded study of 270 waived and 190 PPMP laboratories in 8 additional states. The additional states were chosen to include a broad representation of laboratories in the 8 CMS regions not represented in the pilot study. The data for this project were gathered during on-site inspections using standardized check-lists and post-survey questionnaires. The quality and certification problems found in the expanded study corroborated the findings of the pilot study, as well as the findings of separate studies conducted by CDC and the Office of the Inspector General (OIG). Ms. Hassan concluded by reviewing recommendations made by CMS and OIG.

Committee Discussion

Committee members responded favorably to the study, but questioned whether CMS has the authority and resources to implement the recommendations. Ms. Yost explained CMS has legal authority to carry out the recommendations listed but, because the agency is currently undergoing a change in leadership, does not have final authority. She did indicate the feasibility of accomplishing the recommendations, and CMS is evaluating the information to determine the best use of existing resources in implementing these recommendations.

Several CLIAC members noted the need for outcomes data regarding laboratory practices. Ms. Hassan acknowledged the concern, but pointed out many laboratories don't see patients; therefore, it is difficult to obtain outcomes data. Ms. Yost indicated the best CMS could do is to look at risk of

outcome. Some Committee members noted, despite the difficulty, CMS should combine anecdotal data with a formal assessment and quantification of outcomes. One Committee member suggested the burden of collecting outcomes data should not fall to the regulatory agencies, but rather to the groups or individuals who say regulations are not necessary to ensure the quality of laboratory testing. Several members agreed.

Suggestions were made that, because many problems identified in waived/PPMP laboratories result from laboratories not following manufacturers' test instructions, perhaps the FDA could assist by requiring manufacturers to simplify instructions. Dr. Steven Gutman responded that the FDA is concerned with issues pertinent to labeling, and welcomes any suggestions as to mechanisms that would maximize the likelihood of users following instructions. The manufacturer liaison to CLIAC noted diagnostics manufacturers are also interested in ways to simplify test instructions and ensure they are read and followed. A suggestion was made that manufacturers use incentives to educate users, thereby increasing compliance to follow package insert instructions. For example, manufacturers could offer Internet training to users, giving rebates on test kits to laboratories whose staff participate in the training. Committee members acknowledged the labeling challenges, and concluded education and training are critical for reducing problems.

Food and Drug Administration (FDA) Update Addendum B

Dr. Steven Gutman, Director, Division of Clinical Laboratory Devices (DCLD), Office of Device Evaluation (ODE), Center for Devices and Radiological Health (CDRH), FDA, updated the CLIAC on FDA activities relevant to CLIA. He reviewed the FDA and DCLD personnel status and explained that DCLD is undergoing re-organization, going from three to six branches. He discussed FDA's CLIA test complexity activity; their work to better define the waiver process; and the status of the waiver program. Dr. Gutman also reviewed plans and activities pertaining to genetic testing and shared several website addresses for FDA guidance documents. In conclusion, he summarized the FDA's strategic plan, including new management visions and resources.

Committee Discussion

In response to Dr. Gutman's discussion of the FDA plans to develop a process for the review of genetic tests, several Committee members asked why the Secretary's Advisory Committee on Genetic Testing (SACGT) recommendations for FDA review of genetic tests were revised. Dr. Patricia Charache, CLIAC member serving on the SACGT, explained the numbers of genetic tests in use are much higher than anticipated. To make the recommendations feasible, it became necessary to develop strategies for limiting the number of tests requiring FDA review. Thus evolved a two-path concept for oversight. Existing tests that are better understood should require a less stringent review and will be delegated to a consortium, while new tests will be reviewed by the FDA. Dr. Charache acknowledged there are flaws in the strategy, but assured the Committee the FDA is using professional and industry forums for assessing and resolving issues.

Members of the Committee suggested it is critical to determine clear and concise definitions of "old," "new," and "home-brew" tests. Without clear definitions, a double standard could evolve between "home-brew" and commercial tests. They also reminded the FDA of the importance of considering the impact federal regulations and validation requirements could have on the development of tests for orphan diseases.

Waiver Workgroup Report — Addendum C

Dr. Barbara Goldsmith, Chair of the Waiver Workgroup, reported on the April 11, 2001 meeting of the Waiver Workgroup, formed to provide input to CLIAC on the FDA Draft Waiver Guidance. She reviewed the background for the waiver processes and the 2/01 CLIAC Recommendations to the FDA Draft Waiver Guidance. Dr. Goldsmith then presented the issues considered by the Waiver Workgroup, including home use approval, accuracy, comparability studies, risk of harm, appropriate tests for waiver, quality control testing, labeling, surveillance/post-approval monitoring, general comments, and concerns.

Committee Discussion — Addendum D

Dr. Merlin suggested the Committee frame their discussion around each of the issues presented by the Workgroup to develop a set of comments and recommendations. The Committee agreed, and as they discussed each suggestion made by the Workgroup, they accepted the proposals in the report, or made slight modifications. Pertinent discussion for each topic addressed by the CLIAC follows. A complete set of CLIAC comments and recommendations to the FDA Draft Waiver Guidance (including this meeting and previous meetings) is found within Addendum D.

Home Use Approval

- Dr. Gutman was asked to review the criteria for home-use or over-the-counter (OTC) approval. He responded the criteria specify the product must be simple, and a lay-user can generate the same signal as a laboratory professional. There is no threshold for accuracy for home-use approval other than obtaining a clinically meaningful signal. The fundamental differences in the criteria for home-use approval versus criteria for waiver approval are in the approach to evaluating accuracy and in the assessment of risk and benefits of information in the hands of a lay-user.
- Some Committee members voiced concern that, because the approval criteria for "home-use" tests are not equivalent to the approval criteria for other waived tests, a double standard exists and the home-use process has become a "back-door" for waiver approval. Many members disagreed with home-use approval resulting in automatic waiver. Dr. Merlin reminded the Committee the FDA Modernization Act of 1997 (FDAMA) specifies home-use tests are waived. Also, Dr. Merlin noted, the FDA's Draft Waiver addresses waiver issues, not home testing issues. Since FDAMA specifies that home-use tests are waived, the Committee can only recommend the FDA re-evaluate the criteria for home-use approval. Dr. Gutman

indicated he would take the recommendation of the Committee to the FDA legal staff for consideration.

- The Committee suggested the home-use and waiver approval processes should be harmonized to the extent possible. In doing so, the quality of home-use tests should mirror the quality of more sophisticated clinical tests. Dr. Gutman responded there are opportunities within the stress/flex analysis and quality control recommendations to make the two processes more equivalent. He indicated the FDA is currently in the process of assessing the process for clearance of OTC products.
- Several members commented "home-use" tests are intended for lay-users in a home setting. Using these tests in clinical settings (e.g., physician office laboratories, emergency rooms, or intensive care units) might be considered "off-label" use, which results in a test being considered high complexity under CLIA and not appropriate for waiver. Furthermore, this practice might lead to dangerous outcomes. One example given was the evaluation of anti-coagulant dosages based on results from a home-use prothrombin time device. A physician member noted accurate prothrombin time results are critical in an emergency room and using test results from a home-use device, which can be inaccurate, could lead to unnecessary transfusions or inappropriate anti-coagulant treatment. Many Committee members noted these monitoring devices, designed for self-use by lay-users, are inappropriately used as diagnostic tools by health care providers.
- The manufacturer's liaison pointed out a product cleared by the FDA for home-use is waived by law and can be used in laboratories, without being considered an "off-label" use.
- Dr. Merlin summarized that CLIAC has significant concerns about testing approved for home-use being performed in a clinical setting. This can have serious public health consequences and needs to be addressed. In granting home-use approval for tests, CLIAC recommended the FDA consider all venues in which the tests are likely to be used, and evaluate the risks and benefits of testing these products in the clinical setting.

Accuracy

- Committee members readdressed the use of the word "accuracy" in FDA's Draft Waiver Guidance. Traditionally, accuracy is based on comparing test performance to a measure of truth, such as a reference method. The committee members emphasized agreement of test results between a lay-user and a laboratory professional is not accuracy, but is "comparability," and recommended FDA change "accuracy studies" to "comparability studies" in the Draft Waiver Guidance.
- One CLIAC member suggested waived tests should have higher accuracy standards than moderate or high complexity tests cleared through the FDA 510(k) process. Another member agreed, noting waived tests are used by lay-users with no regulatory oversight, and it may be appropriate to require a higher accuracy threshold for waiver approval than for moderate or high complexity tests, performed in laboratories required to meet standards for personnel, proficiency testing, quality control, and quality assurance.
- Committee members recommended accuracy assessment for qualitative waived tests include the evaluation of clinical sensitivity, clinical specificity, the predictive value and consider the

prevalence of disease.

Comparability Studies

- The CLIAC supported the workgroup report stating comparability studies include intended users in an intended use setting, and show comparable performance between trained and untrained-users. One member questioned the comparability studies between trained and untrained-users in the draft guidance document. The studies evaluate the performance of a small number of trained users performing many tests, versus the performance of many lay users performing a few tests. Dr. Gutman replied this was intentional to magnify any problems with tests performed by lay-users.

Risk of Harm to Patients

- One member questioned whether the FDA would consider risk of harm in waiver evaluations, since it is impossible to define "unreasonable," "risk," and "harm." Others noted all laboratory tests have some risk of harm if performed incorrectly.
- One Committee member expressed concern that some tests, such as HIV tests and genetic tests, could have a great potential for harm if performed in settings that do not provide counseling. The members recommended, in assessing risk of harm, all phases of testing (i.e., pre-analytical, analytical, and post-analytical) should be considered, as well as the context of testing and clinical impact of waived tests.

Appropriate Tests for Waiver

- Some Committee members questioned whether tests requiring follow-up testing should be eligible for waiver approval. They expressed concern that laboratories often fail to conduct follow-up testing in accordance with manufacturer's instructions (e.g., failure to follow-up negative rapid strep tests with throat culture). They asked whether there was a mechanism for gathering data on the frequency of follow-up testing and potential uses for such data. Ms. Yost replied CMS could gather the data through existing resources for use as an educational tool, but if a laboratory continuously failed to conduct follow-up testing, CMS would take action. A suggestion was made that accreditation organizations could address follow-up testing in their accreditation criteria.
- Some members also questioned whether screening tests, tests requiring additional confirmation, or tests for diseases whose prevalence varies in different populations should be eligible for waiver approval. After discussion, it was decided these tests should not be automatically excluded for eligibility, but should be considered on a case-by-case basis, depending on the nature of the test and the potential for benefit versus harm.

Quality Control (QC) Testing Labeling

The CLIAC supported the workgroup comments and suggestions, without changes.

Surveillance/Post-Approval Monitoring

- CLIAC strongly supported Section VI of the FDA's Draft Guidance, recommending manufacturers establish a surveillance plan for post-approval monitoring of waived tests, but many expressed concern that this is proposed as voluntary rather than required. One member

pointed out voluntary reporting of problems could penalize those manufacturers who chose to do it, whereas mandatory reporting would subject all manufacturers to the same standards. The manufacturer liaison stated the post-approval surveillance criteria could limit technology and increase the cost of tests. Committee members noted the post-approval monitoring should be a requirement, but it needs to be feasible and appropriate, and should consider the burden on the manufacturer.

- The Committee discussed who should be responsible for gathering post-approval surveillance data, noting that conflict of interest issues could arise if manufacturers gather their own data. One member suggested the Committee make a recommendation that this data be gathered by someone other than the manufacturer.
- CLIAC recommended a "sunset" provision for re-evaluating waived test performance 3-5 years after approval, using field performance data. They added a mechanism should be developed for withdrawal of waiver approval, if post-approval performance data varies substantively from the original waiver approval data.

General Comments

- Committee members readdressed the findings of the COW/PPMP report, presented by Ms. Hassan of CMS, relating to waived testing errors. They agreed education and personnel competency assessment are critical in reducing these errors but were unsure who would ultimately have responsibility for their implementation. Suggestions were made that manufacturers and/or physicians should be responsible. Some members disagreed, stating personnel competency should not be the responsibility of manufacturers. One member pointed out this would consume an inordinate amount of time with no reimbursement. There was a suggestion that CMS oversee personnel competency. Ms. Yost said CMS currently has no oversight of waived testing personnel, but they would analyze survey data and determine whether training was adequate. Dr. Merlin noted waived testing is not restricted to traditional medical settings and these tests are broadly available. It is possible testing could be performed in any venue (e.g., pharmacies, fast food restaurants, etc.), and this would mean there may not be a physician responsible for interpreting the results.

As explained, the CLIAC revised the Waiver Workgroup recommendations, based on discussions of the full committee meeting. A motion was made and seconded for the CLIAC to adopt these recommendations and forward them to the FDA as formal comments. [**Addendum E**]

HIV Rapid Tests **Addendum F**

Dr. Tom Hearn, Deputy Director, DLS, PHPPO, discussed CDC's strategic plan for HIV prevention, explaining an important part of this plan is to test HIV-infected individuals at earlier stages of their infection. One possible route for achieving this is increasing the access to testing in nontraditional laboratory settings, through the use of rapid tests. The CLIAC was asked to consider the best mechanism to assure nontraditional access to testing, while maintaining high quality test results. Dr.

Hearn also asked the CLIAC to consider rapid HIV tests in the context of the FDA Draft Waiver Guidance.

Dr. Bernard Branson, of the National Center for HIV, STD, and TB Prevention (NCHSTP), CDC, asked the CLIAC to consider whether there should be different criteria for waiving HIV tests than for waiver approval of other tests. Dr. Branson stressed NCHSTP wanted to obtain the insight of the Committee with regard to HIV tests, and whether the Committee could identify items not included in the current FDA Draft Waiver Guidance that should be considered for HIV tests.

Dr. Elliot Cowan, Chief of the Human T-cell Lymphotropic Virus Section of the FDA Center for Biostatistics, announced an upcoming Blood Products Advisory Committee (BPAC) meeting for the Center for Biologics, Evaluation, and Research on June 14, 2001. He noted the issue of CLIA waiver for rapid HIV testing would be discussed during this meeting.

Committee Discussion

- Dr. Merlin noted there are elements other than simplicity and accuracy in considering HIV tests for waiver. Several Committee members re-emphasized concern for the potential for harm if these tests were performed in settings that do not provide pre- and post-test counseling.
- The CLIAC agreed counseling is critical to the clinical management of HIV and discussed the likelihood of patients returning for counseling if preliminary test results are reported on-site.
- Some members questioned the necessity of classifying rapid HIV tests as waived, rather than moderately complex, which would subject them to some oversight. The members expressed concern that if rapid HIV tests were waived, nontraditional testing sites such as singles bars and bath houses could provide HIV testing for their customers with no regulation, oversight, personnel standards, etc.
- One member stated we are at a crucial turning point in HIV management, where focus needs to be shifted to populations that are hard to reach, and are not yet being tested.
- One Committee member suggested access could be increased by providing these rapid HIV tests, presently categorized as moderately complex, under the limited public health certificate, rather than offering them as waived tests. Dr Hearn clarified that a provision in the CLIA regulations allows multiple (no limit to the number of sites) public health laboratories to perform up to a total of 15 moderate and waived tests under a single limited public health certificate. Laboratories operating under a limited public health certificate must comply with both personnel standards and quality control/quality assurance requirements. Several committee members recommended further consideration of the limited public health certificate.
- One member pointed out the BPAC is focused on blood product safety, and may not be aware of issues facing a diagnostic laboratory. Dr. Cowan responded that several people from CDRH would be present at the meeting, and they are familiar with CLIA. He added there would be an open public session at this meeting, where statements may be presented. The CLIAC recommended a representative make a statement at the BPAC meeting, expressing that HIV tests are inappropriate for the waived category. A letter was drafted and approved by CLIAC.

Public Comments

Dr. John Boffa **Addendum G**

Dr. John Boffa, of the American Association of Bioanalysts (AAB), stated AAB is concerned about the absence of quality control and proficiency testing requirements for waived testing. He suggested the FDA consider a new, low complexity category of testing. Tests considered for waiver could initially be placed into this low complexity category; then, once they have demonstrated accuracy and precision in the field, they could be approved for waiver.

Dr. Bernard Branson

In response, Dr. Bernard Branson, NCHSTP,CDC, acknowledged the Committee's concerns regarding waived testing. However, he stated for some screening tests or tests needing follow-up, such as HIV, STD, and hepatitis, the only access to testing may be through nontraditional settings, and it is critical to ensure this access. For the benefit of the public health, he suggested CLIAC consider their recommendations for waived testing and base their decisions on the severity of disease and risk/benefit analysis. He also suggested consideration be given to the new category, as proposed by Dr. Boffa.

Report to CLIAC on SACGT Meeting of May 2-3, 2001 **Addendum H**

Dr. Patricia Charache, CLIAC member serving on the SACGT, updated the CLIAC on two SACGT meetings held on February 15-16 and May 2-3, 2001. Her report highlighted three major areas discussed during the May SACGT meeting: 1) FDA's progress on the development of a test review template for genetic tests and review processes; 2) approaches to the development of clinical guidelines for genetic testing; and 3) ongoing activities of the five SACGT work groups on data collection, education, rare disease testing, access, and informed consent/ institutional review boards (IRBs). Dr. Charache also summarized the SACGT discussion regarding the responsibility of the laboratory director to ensure the clinical validity of genetic testing.

Committee Discussion

Pre-market Approval and Proposed Template for Reviewing Genetic Tests

- There were comments that several terms in the template could be confusing and need to be more clearly defined. Examples were: "clinical validity," "analytical validity," and "clinical utility."
- Some members commented certain information required on the template, such as penetrance of rare mutations, may be unavailable. Dr. Charache responded "unavailable" is a valid response in instances when the required information is not available.
- Several Committee members noted the proposed FDA review of home-brew (laboratory-developed) tests would be a duplication of regulatory oversight, since laboratories are already

required to comply with applicable CLIA requirements in ensuring the quality of laboratory-developed tests. These members were concerned the additional laboratory burden could limit access to new genetic tests.

- Some members expressed concern that the proposed FDA test review could be particularly punitive for small laboratories and academic laboratories, which are already under great financial pressure.
- One Committee member noted the information required on the template would be applicable for all home-brew tests, not just genetic tests.
- Alternatives to the FDA test review were suggested, including revising the CAP laboratory inspection checklist to include the template as a component of the procedure manual criteria.
- Dr. Gutman clarified the template was intended to contain core elements a laboratory should have available before offering a test clinically and was driven by "pure science." He pointed out, while the regulatory endpoint is uncertain at present, the FDA is considering alternative pathways, including a CLIA-based approach and mechanisms through collaboration with professional organizations. Dr. Martin suggested the test review template be piloted to ensure its compatibility with various types of genetic tests.

Rare Disease Testing

- One Committee member noted the majority of genetic diseases are rare but the list of "rare diseases" may change rapidly as knowledge of associations between specific genotypes and health conditions increases. This member suggested it would be more feasible to define conditions that are common rather than rare.
- Several members were concerned that many research-oriented laboratories without CLIA certification report test results to care providers or patients, and do not understand they are providing patient care testing that is subject to CLIA. These members pointed out this problem could become greater as more researchers translate their research results to patient care.
- One Committee member expressed concern about the SACGT effort to protect laboratories performing low-volume rare disease testing. This effort could create a "back door" to avoid the scrutiny of formal pre-market reviews, by performing testing in a home-brew situation.

Informed Consent/IRB Review

- One Committee member commented that one brochure might not be sufficient to explain the various types of genetic testing and appropriate informed consent to the general public. This member also suggested external representation be added to address the issue of patient privacy, along with informed consent.

Laboratory Director Responsibilities

- Concern was expressed that individuals who currently serve as laboratory directors might not have the specific training or experience to fulfill the proposed responsibilities for genetic testing. It was clarified that the proposed responsibilities may be delegated to the technical supervisor and the clinical consultant, while the laboratory director would retain ultimate responsibility for the quality of testing offered by the laboratory.

- One member commented that the SACGT-suggested "responsibilities of the laboratory director for not performing a test on the wrong population group" would be difficult in practice and time-consuming, since laboratories would need to contact the individual ordering the test and explain the reason for rejection. Another member suggested a CPT code be established to reimburse laboratories for the additional time spent to contact health care providers.

The Committee asked Dr. Charache to present a report at the August 2001 SACGT meeting, summarizing the CLIAC discussion on the FDA test review template. Dr. Charache agreed to report back to the CLIAC on the development of the white paper on principles of informed consent by the SACGT Consent/IRB Workgroup.

 # CD-ROM Demonstration - Genetic Testing in Clinical Practice

Dr. Joel Henderson, Chair of Medicine at Dartmouth University, provided a demonstration of a multi-media genetic training program, developed through a cooperative agreement between Dartmouth Medical School and the CDC. This CD-ROM program utilizes "virtual clinic" scenarios and is intended for training non-geneticist health care providers. Dr. Henderson reported the program is in the final phase of development and a complete version will be available in the near future. He noted the challenge of maintaining the current information in the training program in the midst of the many changes in genetic testing.

 # Centers for Disease Control and Prevention (CDC) Update

Public Health Workforce Development **Addendum I**

Dr. Maureen Lichtveld, Associate Director for Workforce Development, PHPPO, gave an overview of a global and national implementation plan for public health workforce development. She summarized the vision, goal, guiding principles, and key planning assumptions for the implementation of a plan to ensure public health preparedness for current and emerging health threats. The plan includes monitoring workforce composition/project needs; identifying competencies/developing curriculum; designing an integrated learning system; using incentives to assure competency; conducting evaluation and research; assuring financial support; and establishing coordination and accountability. Dr. Litchtveld noted genetic testing will be one of the core competencies, and CDC is interested in receiving the CLIAC's input on the laboratory workforce as it pertains to multi-disciplinary genetic issues.

Committee Discussion

Dr. Martin noted genetics is becoming a model for collaboration between medical care and public health. This model may lend itself to issues that need to be addressed regarding HIV testing, bioterrorism, and antimicrobial resistance, where there must be integration of public health with medical care.
Concern was expressed by the Committee regarding the absence of behavioral health/behavioral

modification issues, such as violence, obesity, and tobacco as core competencies in the workforce development plan.

Chronology of Cytology Proficiency Testing **Addendum J**

Ms. Rhonda Whalen, Branch Chief, Laboratory Practice Standards Branch (LPSB), DLS, PHPPO, presented a chronology of the activities associated with implementing the cytology proficiency testing (PT) provisions in the CLIA law. She described the DLS development and testing of CytoView™, a prototype system for computer-based cytology PT. She then described a study, done in collaboration with Analytical Sciences, Inc. (ASI), that compared workplace performance to PT scores, using both formats of PT, glass slide and computer-based testing. The study showed some correlation, though not strong, between workplace performance and PT scores. Individuals performed better on the glass slide test, perhaps because of unfamiliarity with the computer format and the slow speed of the computer responses. A limitation of the ASI study was that pathologists were tested as cytotechnologists, rather than as reviewers of slides pre-marked by cytotechnologists. Based on the evaluation of the study, CytoView™ was re-designed and renamed CytoView™ II. Initial demonstrations of the CytoView™ II at professional meetings have received favorable responses due to the increased sharpness of the images and the enhanced ability of the second generation prototype to focus on different planes of an image. CDC plans to pilot test the second generation system.
Ms. Whalen stressed the CLIA PT regulations specify glass slide tests, so for computer-based PT to be approved, the regulations would have to be changed. Revising the regulations requires rulemaking, which includes publishing proposed regulations and soliciting public comments before the regulations are finalized. Any changes to the regulations would not eliminate glass slide testing, but rather would provide the option of computer-based testing. The goal has been to develop the technology and ensure it is comparable to glass slide testing and appropriate for proficiency testing cytology personnel. This system offers the advantage of immediate re-testing of any individual who fails the first test. However, it is anticipated that a glass slide retest would be given after a repeated failure on a computer-based test. The ultimate vision is a laptop version that can be taken to laboratory sites for testing and encouraging organizations to further develop CytoView™ II to provide a cytology PT program.

CytoView™ II Demonstration **Addendum K**

Mr. Eric Thompson, Health Scientist - Cytotechnologist, LPSB, DLS, PHPPO, gave a CytoView™ II software demonstration, illustrating the controls and discussing the features on the demonstration software, as well as some features planned for the final version.

Committee Discussion

- Dr. Sturman, New York State Department of Health, volunteered his program as a test site, indicating New York has a glass slide PT program in which around 1,000 cytotechnologists are tested.

- One member asked if CytoView™ II PT would be distributed in a CD-ROM format. Mr. Thompson replied the proficiency test would not fit onto a CD-ROM, but the CD-ROM format could be used for educational applications of CytoView™ II.
- One member expressed approval of this technology for PT purposes, and suggested this same technology could be applied in the hematology and microbiology laboratory settings, which are also heavily reliant on microscopy.
- Concern was expressed regarding cytology proficiency testing of the individual versus testing of the laboratory. One member noted this is not unique to cytology; in the discipline of forensics, the individual is tested and in environmental testing, the individual who happens to be in the field at the time is the one who is tested.
- Because some laboratories perform well on PT but, in reality, operate using poor laboratory practices, a suggestion was made that CDC continue to assess whether externally administered PT reflects the quality of work in the laboratory.

Other Issues

Medical Laboratory Personnel Shortage Act of 2001 **Addendum L**

The Committee discussed the Medical Laboratory Personnel Shortage Act of 2001, a recently proposed bill to amend the Public Health Service Act. A suggestion was made that the CLIAC draft correspondence supporting the need for legislation to address the emerging laboratory workforce shortage. The issue was raised as to whether it would be appropriate for the CLIAC to support legislation in Congress.

Dr. Baker, Director, PHHPO, responded by stressing the need for supporting laboratory quality, and accordingly, the need for a competent, well-trained, highly skilled laboratory workforce. He noted, while HHS did not ask for the CLIAC's advice on this legislation, the Committee could voice their support for the issues addressed in this legislation. CLIAC decided to craft a statement expressing concern to the Secretary about the shortage and its impact on public health, and requested the Secretary convey this message to Congress. The Committee drafted and approved the resolution.

Quality Institute

Dr. Martin responded to an inquiry from the CLIAC for an update of plans for the Quality Institute, discussed at the February, 2001, CLIAC meeting. He indicated DLS is currently involved in internal discussions and plans to convene a Quality Institute in late spring or early summer of 2002.

 # Public Comments

No public comments were given May 31, 2001.

Adjourn

The Committee was reminded the next CLIAC meeting will be held September 12-13, 2001. The meeting was then adjourned.

I certify that this summary report of the May 30-31, 2001, meeting of the Clinical Laboratory Improvement Advisory Committee is an accurate and correct representation of the meeting.

/S/ Toby Merlin, M.D., CLIAC Chair Date: September 4, 2001