Clinical Laboratory Improvement Advisory Committee

October 28-29, 1992

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The Clinical Laboratory Improvement Advisory Committee met at the Centers for Disease Control and Prevention Auditorium A in Atlanta, Georgia, on October 28-29, 1992. Those in attendance are listed below:

COMMITTEE MEMBERS PRESENT
Dr. J. Scott Abercrombie
Dr. Paul Bachner
Ms. Michele L. Best
Ms. Virginia W.Charles
Dr. Raymond S. Gambino
Dr. Stanley L. Inhorn
Ms. Sandra F. Johnson
Dr. Stephen J. Kroger
Dr. George D. Lundberg
Dr. Kenneth E. Matthews
Dr. Brenda W. McCurdy
Dr. Robert M. Nakamura
Society
Dr. Wendell R. O'Neal
Dr. Robert V. Pierre
Dr. Charles G.Ray
Dr. Morton K. Schwartz
Dr. Ronald J. Zabransky

Ex Officio Members
Dr. Carlyn L. Collins, CDC
Mr. Thomas M. Tsakeris, FDA
Ms. Judith Yost, HCFA

Executive Secretary
Dr. Edward L. Baker

Centers for Disease Control
Ms. Rosemary Bakes-Martin
Mr. James 0. Bloom
Dr. D. Joe Boone
Mr. Henry M. Colvin
Ms. Carol S. Cook
Dr. Walter R. Dowdle
Ms. Clio H. Friedewald
Mr. Tom L. Hearn
Ms. Artis Hill
Dr. Devery A. Howerton
Mr. Kevin M. Malone
Mr. Gene W. Matthews
Ms. Marta D. Ramirez
Dr. John C. Ridderhof
Ms. Miley A. Robinson
Ms. Renelle P. Woodall

Contract Consultants
Dr. Jeffery H. Cohn
Ms. Mary G. Peick
Dr. Verlin Janzen
Dr. Luella Klein

Oral Presentations
Mr. Michael P. Allen (ChemTrak)
Dr. Alan H. Bennett (American Urological Association, Inc.)
Dr. Rex Conn (American

of Clinical Pathologist)
Ms. Joeline Davidson (American Society for Medical Technology)
Mr. Harry Fini (I-STAT Corporation)
Mr. Doug Hutchinson (American Blood Resources Association)
Mr. Peter M. Kazon (American Clinical Laboratory Association)
Dr. Donald T. Lewers (American Medical Association)
Mr. Mark Rubin (American Dental Association)
Dr. Donald A. Senhauser (College of American Pathologists)
Dr. Robert D. Sowell (American Podiatric Medical Association, Inc.)
Mr. Anders Williamson (HemoCue)
Ms. Julie Zawisza (Health Industry Manufacturers Association)

Estimated Number of Public in Attendance: 68

INTRODUCTION TO THE CLIAC COMMITTEE MEETING

The CLIAC Committee members were welcomed by Dr. Walter R. Dowdle, Deputy Director, Centers for Disease Control (CDC).

Committee responsibilities were addressed by the Committee chairman.

- Committee members were urged to work together to consider the good of the consumer/patient, and disregard their special interest and individual constituencies.

- Issues will be presented that will require members to:

  - listen and participate in discussion;

  - ask questions and identify options;

  - consider impact of any option on quality and availability of testing;

  - provide rationale for any recommendations; and

  - determine the need for the formation of subcommittees to provide more in-depth review and evaluation;

- Issues for this first meeting related to the application of scoring criteria and were selected because of substantive comments received from the public on test categorization.

- Committee members may identify issues to be considered at subsequent meetings.

An attorney from the Office of the General Counsel noted that the committee will provide technical expertise and recommendations concerning test quality, access to care and commercial products, and explained the ramifications of real or apparent conflicts of interest (See Addendum A).

James Mason, M.D., Assistant Secretary for Health, Department of Health & Human Services gave the charge to the committee (See Addendum B).

OVERVIEW OF THE REGULATIONS

I. PRESENTATION

Edward L. Baker, M.D., Director, Public Health Practice Program Office (PHPPO), CDC, Executive Secretary of the Committee, gave an overview of the regulations and Department responsibilities for implementation of CLIA (See Addendum C). During the presentation, the committee members asked questions concerning the regulations.

II. ISSUES RAISED BY THE COMMITTEE

- Rationale for classifying test procedures as either waived or non-waived.
- Clarification of the FDA process for clearing products for home use and consideration of risk of harm to the patient in the clearance process.
- Current status of the test list published September 2, 1992 in the Federal Register.

III. DISCUSSION

Criteria for Categorizing Waived Test Systems

Committee members questioned whether clearance by the FDA for home use could serve as a sole criterion for inclusion on the waived list and if all products cleared for home use would be automatically waived. Another Committee member observed that whole blood glucose monitors pose an additional risk if performed in the clinical setting rather than the home and that experience has taught us that risk is contextual and variable and it would be difficult for the Committee to evaluate.

CDC explained that each criterion was individually assessed and products cleared by FDA for home use were not automatically waived under CLIA.

Consideration of Risk of Harm in Clearing Products for Home Use

A Committee member inquired if the Food and Drug Administration (FDA) incorporates an evaluation of risk of harm to the patient when clearing products for home use. Also, the Committee member asked about, and the FDA representative agreed that, test systems commercially available prior to 1976 (implementation of the Medical Device Amendments, Public Law 94-295) were not subject to clearance by the FDA.

The FDA representative explained that risk of harm is considered in clearing products for home use; however, the risk factors considered pertain to the context of test performance conducted in the home setting.

Status of September 2, 1992 Test List

Committee members inquired about the status of the test list published September 2, 1992 in the Federal Register.

CDC explained that the changes in categorization of some microbiology procedures included on the test categorization list published in the Federal Register on September 2, 1992, were withdrawn by notice in the Federal Register on October 1, 1992 to permit further review prior to final placement.

Miscellaneous

There was limited discussion of test categorization methodology at this time since this was the subject of the next presentation and materials were provided to the Committee outlining the process for test categorization (See Addendum D).

TEST CATEGORIZATION

I. PRESENTATION

Dr. Baker introduced a member of the CDC staff, Rosemary Bakes-Martin, Health Scientist, who made a detailed presentation of the test categorization process, including an explanation of the criteria employed and methodology for scoring (See Addendum D).

II. ISSUES RAISED BY THE COMMITTEE

- Objectiveness of the criteria and consideration for relative weighting.
- Concerns for limiting test categorization to the analytic phase.
- Concerns for not including risk of harm as one of the criteria for test categorization.
- Arbitrariness of the cut-off score distinguishing a test as either moderate or high complexity.
- Request for percent distribution of total test scores.
- Role of the committee in test categorization.

III. DISCUSSION

Criteria and Scoring

Concern was expressed over all criteria being equal, using a number of one to three to score each criterion, and the potential for subjective scoring using the criteria. It was asked if any test system that received a score of three for any one of the criteria was categorized as moderate complexity. In addition, some committee members emphasized the personnel cognitive skills required for test performance, as well as the preanalytic and postanalytic phases of testing, and asked whether any consideration was given to weighting the criteria related to knowledge, and interpretation and judgment skills for scoring purposes.

It was explained that the evaluation of each test system included: the preanalytic procedures related to specimen processing and handling; the actual steps involved in test performance; and the postanalytic activities related to the interpretation of data necessary for determining a test result. Each individual criterion was separately evaluated. The criteria were not

weighted but there was a balance in evaluating the complexity of the procedure and the analyst skills, technical, as well as cognitive. CDC stated that because the criteria are interrelated, all test systems that received a score of three for any one criterion also had at least one other criterion that scored a three. Currently, using the categorization scheme, any test system receiving a score of three for any criterion has similar scores for related criteria and is classified as high complexity.

Although some Committee members expressed concern that the criteria did not explicitly consider risk of harm, other Committee members noted that it was inherent in several of the criteria. CDC added that any erroneous test result represents a potential for risk of harm to the patient and to the extent that increased complexity can increase the likelihood of errors in test performance which, in turn, can result in incorrect test results, risk of harm is included in the criteria. However, CDC was unable to develop a valid method for establishing an acceptable level of risk since this would include determining the probability of actions being taken on an incorrect test result, and if acted upon, the consequence for the patient.

Clarification was requested and provided concerning the criteria related to operational steps and the availability of quality control and proficiency testing materials.

Cut-off

The Committee asked why a score of 13 was selected as the cut-off in determining a test of high complexity. It was explained that a score of two for each criterion would equal a total score of 14. CDC felt it was warranted to drop the cut-off one point so that a total score of 13 or higher would indicate a test of high complexity. It was emphasized that test systems receiving scores of 12, 13, and 14 were carefully reviewed and most often consultants with specific expertise in the particular testing specialty were utilized in this review. Consequently, a test categorized as moderate would have at least one criteria with a score of 1.

The Committee requested a graph or pictorial representation of the test score distribution which was provided by CDC (See Addendum E).

Role of the Committee

Clarification was requested regarding the Committee's role in test categorization. The Committee chairman read to the group the provisions concerning the functions of the CLIAC contained in the Federal Register published February 28, 1992 (See Addendum F).

A Committee member stated that recategorization discussions should not be focused on individual test systems but rather test methodologies which would include groups of test devices and instruments.

CDC noted that in the near future the final compilation of categorized test systems will be published in the Federal Register. It was decided that it would be useful to discuss with the committee some issues related to the application of the scoring criteria prior to publication of that final compilation.

A Committee member reminded the group that any reclassification of test systems at this time should be viewed in terms of its impact on CLIA implementation and cautioned against making any hasty recommendations for change.

PUBLIC COMMENTS

In response to the Federal Register notice published September 30, 1992, announcing the CLIAC meeting, the following individuals requested permission and were granted the opportunity to make an oral presentation., The Committee chairman introduced each presenter. Time was allotted at the conclusion of each presentation for the Committee to ask for clarification or make observations concerning the presentation. (See Addendum G for the written materials prepared and submitted to the Committee by each individual making a presentation.)

Anders Williamson
HemoCue

Alan H. Sennett, M.D.
American Urological Association, Inc.

Robert D. Sowell, DPH
American Podiatric Medical Association, Inc.

Joeline Davidson
American Society for Medical Technology

Michael P. Allen
ChemTrak

Doug Hutchinson
American Blood Resource Association

Rex Conn, M.D.
American Society of Clinical Pathologist

Mark Rubin
American Dental Association

Peter M. Kazon
American Clinical Laboratory Association

Julie Zawisza
Health Industry Manufacturers Association

Donald A. Senhauser, M.D.
College of American Pathologists

Donald T. Lewers, M.D.
American Medical Association

Henry Fini
I-STAT Corporation

THE ISSUES & CATEGORIZATION PROCESS

This portion of the meeting was devoted to presentations and discussions concerning the application of the scoring criteria using as examples specific test systems or procedures that generated substantive public comments requiring Department response. In each instance, CDC provided a technical overview which outlined problems in categorization or scoring, and the test utility and clinical impact were addressed by a CDC contract consultant.

MICROBIOLOGY CATEGORIZATION

I. PRESENTATIONS

The technical presentation was made by John C. Ridderhof, Dr. P.H., Chief, Laboratory Practice Standards Branch, Division of Laboratory Systems PHPPO, CDC. The clinical/impact presentation was made by Jeffery H. Cohn, M.D., Private Practitioner, Cohn/Schull Urology, Birmingham, Alabama (See Addendum H).

II. ISSUES

- Should the multi-step process of isolation, identification, and susceptibility testing of organisms transferred from culture be considered a single test?
- Should all tests as described above be categorized as high complexity regardless of specimen source?
- Should Gram stains from urethral/cervical sources be categorized as moderate complexity and Gram stains from all other sources be categorized as high complexity?

III. DISCUSSION

Committee members expressed concern about reviewing the categorization of individual test systems and procedures. CDC explained that the categorization of microbiology test systems and procedures for the isolation, identification and susceptibility of organisms was dependent on determining whether each component of a test system would be individually categorized or if the total test system would be evaluated for categorization purposes. Therefore, these proposals do not involve just one test system or procedure but effect the entire category of microbiology. Support was expressed for the revised approach taken by CDC.

Initially, some Committee members expressed the view that all Gram stain procedures should be categorized as high complexity. Other Committee members felt that Gram stains performed on urethral smears could be categorized as moderate complexity, while Gram stains on smears from cervical specimens should be categorized as high complexity. After discussion concerning the performance of Gram stains on urethral and cervical smears in clinical practice and public health settings, there was general agreement that Gram stains performed on urethral and cervical smears should be categorized as moderate complexity, while Gram stains performed on other sources should be categorized as high complexity.

IV. RECOMMENDATIONS

The Committee recommended that 1) the isolation, identification, and susceptibility of organisms transferred from culture be considered as a single test, 2) all tests so identified be categorized as high complexity, and 3) urethral/cervical Gram stains be categorized as moderate complexity while Gram stains from all other sources be categorized as high complexity.

HEMOGLOBIN TESTING

I. PRESENTATIONS

The technical presentation was made by Tom L. Hearn, Chief, Laboratory Practice Assessment Branch, Division of Laboratory Systems, PHPPO, CDC. The clinical/impact presentation was made by Mary Peick, M.P.H., R.D., WIC Program Manager, St. Paul Health Department, St. Paul, Minnesota (See Addendum I).

II. ISSUE

Should hemoglobin testing by the Hemocue instrument be waived?

III. DISCUSSION

Several Committee members expressed concern over the existence of a waived category and the addition of more tests to this category. Others saw the need for a waived category to avoid denying access to care. A Committee member cautioned against looking at one particular test system since this may encourage other manufacturers to petition the Committee for recommendation of their products for addition to the waived list. A Committee member suggested that in as much as FDA uses an equivalency mechanism for clearing products for marketing, equivalency of a test system to a test system already on the waived test list may be a process for determining waived status. Several Committee members questioned the inclusion of whole blood glucose monitors and the spun microhematocrit on the list of waived tests and remarked that the simplicity and stability of testing using the Hemocue was at least comparable to these tests. Since the spun microhematocrit procedure is somewhat imprecise and poses safety concerns relative to broken tubes, some Committee members suggested that, if the spun microhematocrit procedure were to remain on the list of waived tests, Hemocue hemoglobin measurements should be added to the waived list.

IV. RECOMMENDATION

The Committee recommended the addition of hemoglobin testing by the Hemocue instrument to the waived list but recommended that the entire list of waived tests be reviewed for the appropriate application of the criteria for determining waived status.

HDL CHOLESTEROL TESTING

I. PRESENTATIONS

The technical presentation was made by Rosemary Bakes-Martin, Health Scientist, Laboratory Practice Standards Branch, Division of Laboratory Systems, PHPPO, CDC. The clinical/impact presentation was made by Verlin K. Janzen, M.D., Private Practitioner, Nebraska City Family Medical Clinic, Nebraska City, Nebraska (See Addendum J).

II. ISSUE

Should some high complexity HDL cholesterol procedures be recategorized as moderate complexity?

III. DISCUSSION

Committee members discussed the importance of the testing personnel training and experience in relation to making appropriate decisions (i.e., evaluation of the supernatant's turbidity in the pretreatment precipitation step) during test performance. Members were divided on whether individuals meeting the personnel requirements for moderate complexity testing, that is a high school graduate through on-the-job training, could acquire the skills necessary for the interpretation and judgment needed in test performance or whether formal education and laboratory training was a prerequisite. Several Committee members noted that RDL cholesterol is typically performed as a part of a profile and therefore the test result would be evaluated in conjunction with other test results. Some members also noted that if high complexity personnel were required to perform HDL cholesterol, due to the shortage of personnel, some laboratory settings would be unable to continue to perform the entire profile, thereby delaying diagnosis and treatment. The Committee asked how many HDL cholesterol test systems are categorized as moderate complexity. CDC responded that currently six HDL cholesterol test systems are categorized as moderate complexity and provided a list of all currently categorized HDL cholesterol test systems (See Addendum K). One Committee member suggested that additional information might be provided by manufacturers' representatives in the audience and the Chairman asked whether any manufacturer wished to address the topic under discussion. Two manufacturers made presentations (See Addendum L).

IV. RECOMMENDATION

The Committee recommended that RDL cholesterol test systems categorized as high complexity be reviewed for the appropriate application of the categorization criteria.

PHYSICIAN PERFORMED-MICROSCOPY

I. PRESENTATIONS

The technical presentation was made by Carlyn L. Collins, M.D., M.P.H., Director, Division of Laboratory Systems, PHPPO, CDC. The clinical/impact presentation was made by Luella Klein, M.D., Chair, Department of Gynecology and Obstetrics, Emory University/Crawford Long Hospital, Atlanta, Georgia (See Addendum M).

II. ISSUES

- Should a category of physician-performed microscopic examinations exempt from inspections be created?
- What criteria should be used to identify physician-performed microscopic tests?
- Should the tests suggested through public comments be included in the proposed physician-performed microscopy category: wet prep; KOH prep; post-coital exam; Fern test; pinworm test; urine microscopic exam; Gram stain; and Tzanck test?

III. DISCUSSION

Category for Physician-performed Microscopy Procedures

A few Committee members expressed concern that non-physician personnel can and do perform these microscopy tests and requested clarification whether the performance of these tests by non-physicians would be allowed in this new category. CDC explained that eligibility for a physician-performed microscopy certificate would be limited to those laboratories in which only physicians would perform specific microscopic tests on specimens from their patients during patient visits. There was some discussion about limiting the performance of specific tests to certain practice specialties; however, there were equal comments that this would be inappropriate and microscopy tests in this category could be performed by any physician. Another discussion concerned broadening this category to include practitioners and defining physician. There was some discussion of limiting this category to those individuals licensed by a State to care for patients in the State in which the individuals practice is located.

Several committee members expressed discomfort about exempting these examinations from inspections since there would be no verification of compliance with personnel requirements and

conformance with principles of good laboratory practice. Although there was some discussion concerning conducting random inspections of a percentage of laboratories performing testing in this category, some Committee members were opposed to this proposal. There was general agreement among the Committee members to create a physician-performed microscopy category and that laboratories performing testing in this category should be subject to inspections under at least the same circumstances that laboratories with a certificate of waiver would be subject to inspection.

Criteria for Physician-performed Microscopy Procedures

CDC proposed criteria for categorizing tests in this category. Tests in this category are generally labile and difficult to transport and would be subject to limited quality control (QC) since no control materials are available; however, the laboratory is expected to follow good laboratory practice. It was brought to the attention of the Committee by some of its members that the use of a microscope does require some QC (e.g., preventive maintenance and repair). Further, CDC explained that proficiency testing (PT) requirements generally would not be applicable due to the unavailability of appropriate PT materials for the tests proposed. However, Committee members encouraged voluntary participation in PT to the extent programs are available. A Committee member noted that all of these procedures require some specimen processing and this should be reflected in the criteria. Several Committee members noted that surveyors could evaluate specimen processing and microscope function in those instances when an inspection is required. The Health Care Financing Administration (HCFA) representative pointed out that compliance with applicable requirements for facilities, record keeping, procedure manual, and reagents could be verified through inspections.

Physician-performed Microscopy Procedures

The Committee agreed that the following tests meet the criteria for inclusion in the physician-performed microscopy category: wet mount; KOH prep; post-coital exam; Fern test; and pinworm test. However, one member stated that the pinworm test does not fit the lability criterion.

One Committee member expressed concern over the inclusion of the urine microscopic examination on the list of tests for this category when the identification and quantification of urine sediment constituents is involved. Another Committee member responded that since all medical students are trained to perform urine microscopic examinations, this procedure should be available to all physicians as part of their practice of medicine. A Committee member asked if urine microscopic examination meets the criteria; several Committee members responded that control materials and PT are available. Other Committee members remarked

that the microscopic examination needs to be performed soon after collection, since urine specimens are labile and specimen integrity may be compromised if the specimen is transported to a referral laboratory.

Most Committee members questioned whether the Gram stain and Tzanck test meet the criteria for inclusion in this category. Several Committee members suggested the formation of a subcommittee to review the criteria in determining whether these tests should be included in physician-performed microscopy category.

IV. RECOMMENDATIONS

- The Committee recommended the creation of a physician-performed microscopy category subject to inspection only under the same circumstances as a laboratory with a certificate of waiver.

- The Committee adopted the CDC recommended criteria for categorizing physician-performed microscopic tests with provision that "limited" be added to the criterion pertaining to specimen processing and "minimum" be added to criterion pertaining to surveyor evaluation.

- The Committee recommended that the wet prep, KOH prep, post-coital exam, Fern test, pinworm test, and urine microscopic examination be included in the list of physician-performed microscopic tests.

- The Committee recommended that a subcommittee be formed to determine whether the Gram stain and Tzanck test should be included on the list of physician-performed microscopic tests.

GENERAL COMMENTS

The Committee was informed that Fred Lasky, PhD, Director, Government and Industry Relations, Clinical Product Division, Eastman Kodak Co., resigned as a member of the Committee to avoid potential conflicts of interest.

The Committee:

- Requested that in the future, meeting materials and agenda be provided to Committee members for review prior to date of meeting.

- Requested that any materials distributed by HCFA to regional offices or State agencies be provided to Committee members to which the HCFA representative agreed.

- Requested FDA to provide to Committee members the guidance document describing materials/data to be submitted by manufacturers for approval of the manufacturer's QC protocols for meeting applicable CLIA requirements. The FDA representative agreed to sharing the documents with the Committee members.

- Requested and received verbal clarification concerning the respective roles and responsibilities of FDA and HCFA in CLIA implementation.

- Requested clarification concerning what actions would be taken in response to Committee recommendations, and requested feedback when decisions are made concerning Committee recommendations, to include an explanation of any decisions made contrary to Committee recommendations. CDC explained that any CLIAC recommendations would be discussed with the Director of CDC and the Assistant Secretary of Health, who would then make recommendations to the Secretary of Health and Human Services. It was agreed that each meeting would begin with a status report, including the disposition of committee recommendations.

- A discussion clarified that the Committee will determine the need for the formation of a subcommittee which will be comprised of Committee members and consultants as needed. CDC will be responsible for subcommittee meetings and reporting proceedings to the Committee.

- A suggestion was made that due to the amount of information presented, fewer public comments be presented at each meeting or allot more time for the

presentations and follow-up discussions.

- A suggestion was made to exercise caution when handling inquiries from the public/media concerning meeting proceedings.

- It was mutually agreed to review the previous meeting's Summary at the beginning of the next meeting.

- The Chairman recommended that the Committee members review test categorization criteria and consider issues for future meetings.

- The next two Committee meetings were scheduled for February 17-18, and May 26-27, 1993.

I certify that this summary report of the October 28-29, 1992 meeting of the Clinical Laboratory Improvement Advisory Committee is an accurate and correct representation of the meeting.

Morton K. Schwartz
Chair