JACC: CARDIOVASCULAR IMAGING VOL. 1, NO. 3, 2008

ISSN 1936-878X/08/$34.00
PUBLISHED BY ELSEVIER INC. DOI:10.1016/j.jcmg.2008.04.002

iBIZ

BUSINESS AND ADVOCACY

Accreditation for Cardiovascular Imaging

Setting Quality Standards for Patient Care

Gary V. Heller, MD, PhD, Sandra L. Katanick, RN, CAE, Tamara Sloper, BS, Mario Garcia, MD

The accreditation of laboratories performing noninvasive cardiac procedures is now routinely available and often required by insurance companies. In this article, the history of the accreditation for cardiac procedures is reviewed, the process explained, and the number of accreditated laboratories listed. Decision pathways are listed, and common reasons for a laboratory being delayed in approval are described specific for the various modalities. Some of the common compliments and concerns received by the Intersocietal Accreditation Commission are described.

Noninvasive imaging has become a mainstay in the evaluation process of patients with known or suspected cardiovascular diseases. Annually, millions of patients undergo single-photon emission computed tomography, positron emission tomography (PET), echocardiogram, magnetic resonance imaging, noninvasive vascular, and computed tomography (CT) evaluations for cardiovascular disease in both hospitals and office-based centers. Of primary interest to those ordering, participating in, paying, or overseeing these procedures is the quality of the test performed and interpreted. Current trends indicate that, now more than ever, those performing diagnostic imaging procedures need to demonstrate a commitment to quality and accepted standards of practice. Laboratory accreditation offers the means necessary to demonstrate that commitment: to quality in patient care, quality in imaging, quality in interpretation, quality in reporting and, most of all, the overall quality of the facility.

In recent years, the impetus for participation in this once only-voluntary process has increased on the basis of mandates by Medicare carriers as well as a multitude of private, third-party insurers. The majority of policies enacted to date impact specific states or regions; however, in 2008, a policy put in place by a large, private insurer requires accreditation on a nationwide basis for all advanced imaging procedures. Particularly throughout 2007, an increase in the number of accredited laboratories correlates to this specific, widespread payment policy.

Dr. Heller is the Past President of Intersocietal Commission for the Accreditation of Nuclear Medicine Laboratories, Intersocietal Commission for the Accreditation of Computed Tomography Laboratories, and Intersocietal Accreditation Commission and Director of Nuclear Cardiology, Hartford Hospital, Hartford, Connecticut. He is currently on the Board of Directors of the Intersocietal Accreditation Commission and the Intersocietal Commission for the Accreditation of Nuclear Medicine Laboratories. Dr. Katanick is the CEO and Ms. Sloper is the Director of Marketing, Intersocietal Accreditation Commission, Columbia, Maryland. Dr. Garcia is the President of Intersocietal Commission for the Accreditation of Computed Tomography Laboratories, and the Director of Noninvasive Cardiac Imaging, Mount Sinai School of Medicine, New York.

Manuscript received March 20, 2008; accepted April 3, 2008.

Why Accreditation of Laboratories, and Who Should Do It?

The concept of accreditation of laboratories was born out of a desire by many groups to demonstrate that the studies being performed met some national standards for quality and interpretation. Pressure came from payors, but also professional societies, consumers, and oversight groups.

Once one accepts accreditation as a valid measure of laboratory quality, the question

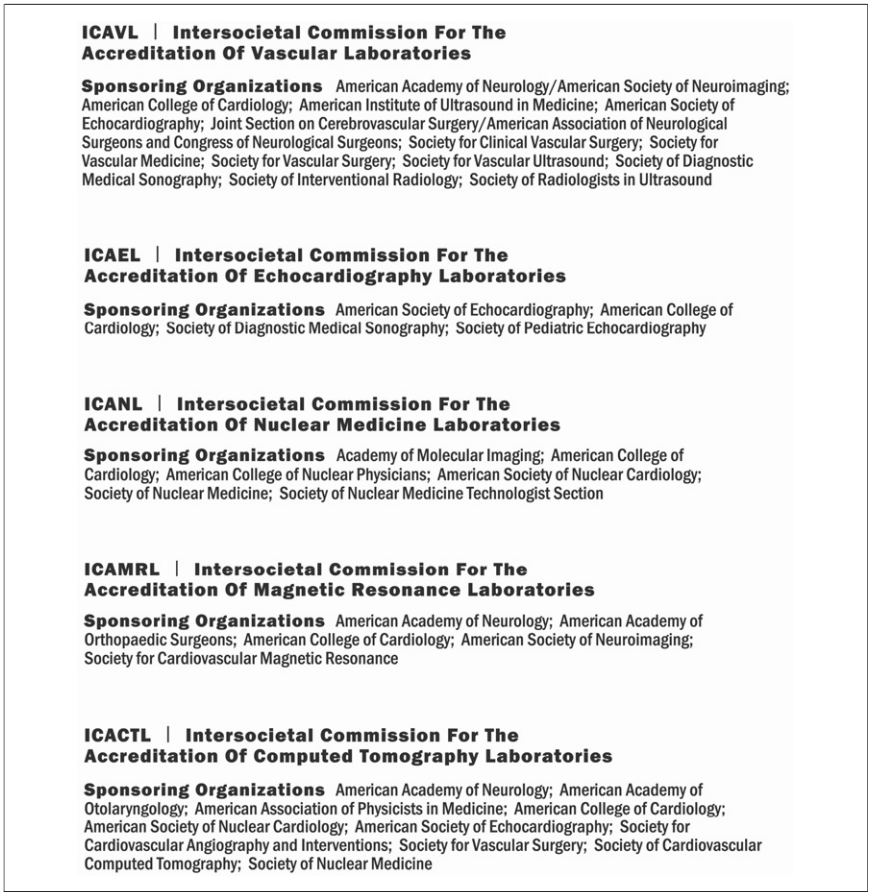

Figure 1. Summary of Sponsoring Organizations for Each Division of the Intersocietal Commission for Accreditation

A sponsoring organization may support several imaging modalities.

becomes who or what organization is best suited to provide such an evaluation. By a large consensus, the model has become an organization that consists of various professional societies that are involved in a specific testing procedure. In the cardiovascular imaging arena, this concept was first developed by professional societies representing noninvasive vascular testing laboratories. In 1990, the Intersocietal Commission for the Accreditation of Vascular Laboratories (ICAVL) was initially established by 8 founding societies, and eventually joined by others well known to the cardiology community, such as the American College of Cardiology and American Society of Echocardiography, as well as others representing all aspects of vascular imaging (Fig. 1). Representatives of these organizations developed the Vascular Laboratory Essentials and Standards as well as the evaluation criteria for accreditation.

To date, there are 1,766 ICAVL-accredited laboratories throughout the U.S., Canada, and Puerto Rico. The number of applications for this modality during the past 10 years is shown in Figure 2. Results of a customer satisfaction survey (1) demonstrate that the ICAVL process is associated with, or responsible for, many positive trends, including an improved recognition of the role of the vascular laboratory by hospital administrators; the addition of new testing protocols and improved consistency in application of diagnostic criteria; greater standardization of diagnostic techniques; increased continuing vascular education by the laboratory's technical and medical staff; and increased application of quality assurance (QA) procedures.

The success of the ICAVL accreditation program has led to its use as a model for the development of accreditation programs to evaluate other diagnostic procedures. In response to the need for standardization and improvement of the quality of echocardiographic laboratories, the Intersocietal Commission for the Accreditation of Echocardiography Laboratories (ICAEL) was incorporated in December 1996 by uniting the specialties involved in echocardiography (Fig. 1). The ICAEL is dedicated to promoting high-quality echocardiographic diagnostic evaluations in the delivery of health care by providing a peer review process of laboratory accreditation. To date, 1,771 echocardiography laboratories are accredited by the ICAEL (Fig. 3). The ICAEL is the only accrediting body for echocardiography.

The Intersocietal Commission for the Accreditation of Nuclear Medicine Laboratories (ICANL) was founded in November 1997 by uniting the specialties involved in nuclear cardiology, nuclear medicine and PET (Fig. 1). The ICANL is dedicated to promoting quality nuclear cardiology and nuclear medicine diagnostic evaluations in the delivery of health care by providing a peer review process of laboratory accreditation. Upon merging the ICANL accreditation program with that of the American College of Nuclear Physicians in 2000, the ICANL added a mandatory site visit to each applicant laboratory. Today, a statistically valid percentage of the applications received each quarter undergo an onsite inspection. One thousand three hundred sixty sites are currently accredited by the ICANL. The number of laboratories submitting applications during the past 10 years is illustrated in Figure 4.

In 2000, the Intersocietal Commission for the Accreditation of Magnetic

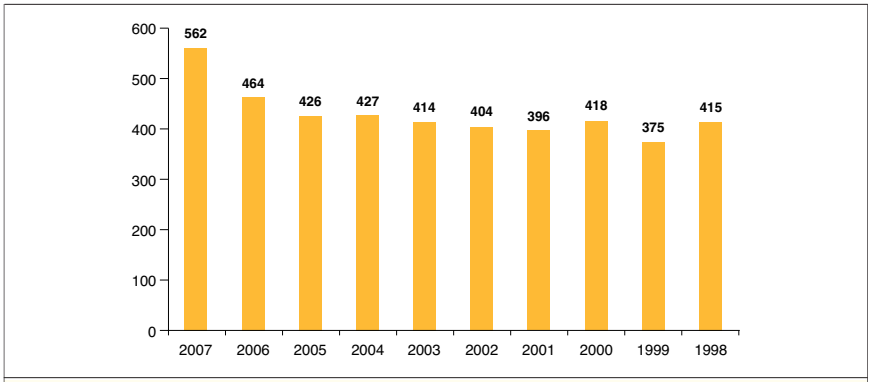

Figure 2. Applications Received for the ICAVL Laboratories, Past Decade

Application dates are reported for years 1998 to 2007. ICAVL = Intersocietal Commission for the Accreditation of Vascular Laboratories.

Resonance Laboratories (ICAMRL) was founded, bringing together the multiple medical specialties utilizing this modality (Fig. 1). In addition to the sponsoring organizations affiliated with the ICAMRL, the specialty of radiology is represented through both physician and technologist board members at large. The ICAMRL is dedicated to promoting appropriate diagnostic quality magnetic resonance in the delivery of health care by providing a peer review process of laboratory accreditation. It is of interest to note that, although not applicable to cardiology, to date, the ICAMRL is the only accrediting body to offer a program for extremity magnets. Currently, there are 25 sites accredited by the ICAMRL.

Most recently, the Intersocietal Commission for the Accreditation of Computed Tomography Laboratories was founded in 2007, uniting the multiple specialties involved in CT imaging. Although the initial impetus was for cardiovascular-related CT, the committee has developed standards for whole-body CT, neurological CT, sinus and temporal bone CT, as well as cardiovascular CT. The initial pilot program was completed in 2007, and the first group of applications is currently under evaluation.

As the echocardiography group was being formed, the need for a common management structure and oversight was recognized. As a result, the "parent" organization Intersocietal Accreditation Commission (IAC) was incorporated in 1996. This organization provided the mechanism for future groups to join and participate in both the individual organizations (ICANL, ICAMRL, and Intersocietal Commission for the Accreditation of Computed Tomography Laboratories) and IAC operations.

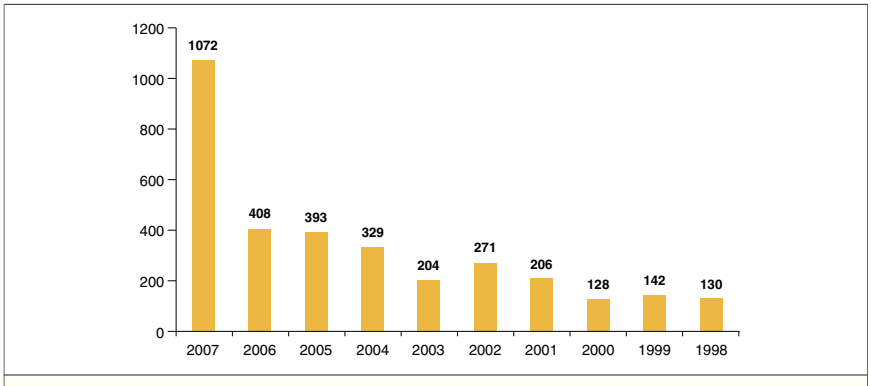

Figure 3. Applications Received for the ICAEL Laboratories, Past Decade

Application dates are reported for years 1998 to 2007. ICAEL = Intersocietal Commission for the Accreditation of Echocardiography Laboratories.

The Forces Driving the Growth and Acceptance of Accreditation

Developed through an intersocietal approach, IAC provides clinicians using the respective imaging modalities with a mechanism by which to demonstrate the level of patient care they provide. Through the accreditation process, laboratories assess every aspect of their daily operation and its impact on the quality of the imaging services provided to patients. While completing the application, laboratories often identify and correct potential problems, revise protocols, and establish quality-assurance programs. Because accreditation is renewed every 3 years, a long-term commitment to quality and self-assessment is developed and maintained. Participating laboratories use accreditation as the foundation to create and achieve realistic quality imaging goals.

Historically, accreditation has been a voluntary process most often embarked upon by laboratories with a desire to surpass expectations and achieve recognition for their quality through the highly regarded peer review process. In recent years, the voluntary process has become mandatory by multiple payers. For example, in 2007 United Healthcare (estimated 50 million covered lives) announced mandatory accreditation by IAC or American College of Radiology (ACR) for echocardiography, nuclear medicine, and nuclear cardiology, PET, magnetic resnonace imaging, and CT for reimbursement by March 1, 2008. They recently extended that deadline to the third quarter of 2008 to give their providers more time to comply. There is a strong trend by many private insurance companies and radiology benefits management organi-

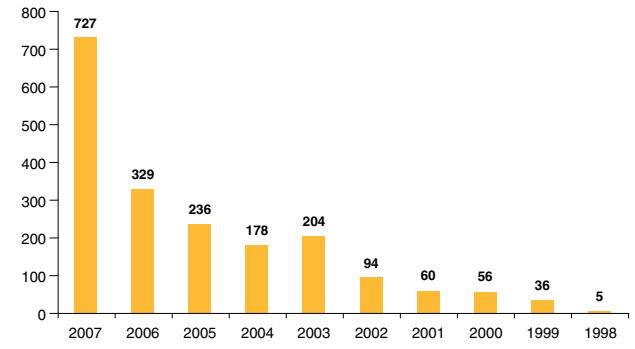

Figure 4. Applications Received for the ICANL Laboratories, Past Decade

Application date are reported for years 1998 to 2007. ICANL = Intersocietal Commission for the Accreditation of Nuclear Medicine Laboratories.

zations to require accreditation as one of many conditions for payment.

As an added driving force, statements released by the predominant cardiovascular professional societies in recent years strongly advocate accreditation. The American College of Cardiology (ACC)'s *Statement on Accreditation/Certification*, adopted by the ACC Board of Trustees on March 5, 2005 (2), both "strongly supports participation in physician certification and/or laboratory accreditation programs developed by physicians and appropriate to the field of practice" and also "encourages governments and payers to make accreditation/certification programs mandatory conditions of participation."

A mandate set forth by the Board of Directors of the American Society of Nuclear Cardiology supports mandatory accreditation of nuclear cardiology laboratories and mandatory certification of physicians practicing nuclear cardiology by January 1, 2008 (3). In 2005, the American Society of Echocardiography released a statement in the form of proposed local coverage determination language (4), specifically related to laboratory accreditation and physician and sonographer qualifications for transthoracic echocardiography. Medicare has adopted several local coverage determinations that require mandatory accreditation or sonographer certification for noninvasive vascular testing and echocardiography in many states on numerous occasions, but so far has not adopted a national coverage policy.

Development and Structure of Imaging Accreditation Programs

Each of the laboratory accreditation programs administered by the IAC has been developed by using the same basic principles. As each accreditation program was being formed, it was recognized that with appropriate guidelines in place, high-quality diagnostic imaging could be performed and interpreted in a variety of settings, including university-based medical centers, community hospitals, private offices, clinics, and mobile operations.

The development and revision of standards is a key component of the accreditation process. The standards are based upon published guidelines, peer-reviewed literature, and consensus by the panel of experts from the sponsoring organizations that comprise the Board of Directors. These standards are subject to regular modification based upon guideline revisions, new peer-reviewed publications, and/or new technological developments. The 3-year renewal process provides a mechanism for the laboratories to reflect these standards changes when applying for reaccreditation.

The published standards are the foundation of each accreditation program, providing detailed guidelines and recommendations for operating a quality diagnostic imaging laboratory. The corresponding accreditation applications are composed to elicit key responses that allow reviewers to objectively judge whether or not the applicant laboratory demonstrates substantial compliance to the standards. Representative case studies are included as part of each submitted application and allow reviewers to evaluate the interpretative and technical quality of the laboratory as a whole.

In addition to reviewing the submitting applications, each accrediting division performs random site visits each quarter. The overall evaluation process itself is one of peer review conducted by experts in the field employed within accredited laboratories. The individuals selected to become application reviewers and site visitors for the IAC receive in-depth, structured training based upon objective review principles and criteria.

The Application Process

To begin each of the accreditation processes, laboratories first order the Accreditation Materials; *The Standards* and corresponding Accreditation Application. It is not necessary for the laboratory to determine a specific timeframe in which they plan to apply for accreditation before ordering these materials; notification of periodic updates is automatically sent.

Laboratories are reminded that accreditation is based upon substantial compliance with the published Standards. The IAC accrediting bodies seek to recognize clinical competence and, where appropriate, stimulate improvement of the overall quality of the laboratory. Newly established protocols and procedures are acceptable as long as they have been validated and the submitted, representative cases demonstrate their use.

Once applications are submitted to the IAC office, a multiphase process is initi-

JACC: CARDIOVASCULAR IMAGING, VOL. 1, NO. 3, 2008
MAY 2008:390–7

ated during which every application receives in-depth review. The initial phase includes an administrative in-house review process to ensure that applications are complete, with all attachments included and case studies adequately documented. In phase 2, the clinical application reviewers independently assess each application. The representative case studies submitted by the laboratory are the most significant aspect of the application and their evaluation is heavily weighted in the accreditation decision. The purpose of reviewing the representative cases is to evaluate the interpretative and technical quality of the laboratory as a whole, as related to the standards. As part of the case study evaluation, the corresponding final reports are reviewed for accuracy, format and content. When evaluating examination performance, the application reviewers use a series of specific questions to measure compliance with the standards, as well as the laboratory's protocols thus eliminating reviewer bias.

In addition to providing a decision recommendation to the respective Board of Directors, the reviewers meticulously record their observations, both positive and negative, of each application. The Board of Directors has five decision pathways from which to choose.

Decision Pathways

Accreditation granted. Accreditation is valid for 3 years. The 3-year duration is based upon JCAHO recommendations for hospital accreditation.

Provisional accreditation granted. Accreditation is valid for 1 year, pending correction of minor deficiencies that do not impact the day-to-day quality of the studies. Only laboratories applying for their first accreditation are eligible to receive a Provisional grant; reaccreditation applications with these specific deficiencies will receive a Delay decision.

Site visit required. Review of the submitted application is not sufficient to determine substantial compliance. An on-site inspection is conducted on a mutually agreed upon date. Results are then communicated to the Board of Directors, which renders an accreditation decision.

Accreditation delayed. Correction of identified deficiencies through submission of additional documents and/or case studies is required.

Accreditation denied. Substantial deficiencies demonstrated significant impact on study quality which may jeopardize quality of care. The laboratory may appeal for reevaluation by another IAC review panel.

At quarterly intervals throughout each year, the Board determines an accreditation decision for each applicant laboratory. The laboratories are notified of their accreditation status in writing within four weeks of this meeting. Laboratories that are granted accreditation receive accreditation portfolios containing certificates, a press release, and electronic versions of the accredited laboratory logo, for use in promoting their achievement to patients, referring physicians and the public. One of the most valuable aspects of the process is the application review findings, which is an electronic document summarizing the peer review of the laboratory in which the strengths and weaknesses are identified. Laboratories are encouraged to use this critique as a tool for continued improvement. When applying for reaccreditation in 3 years, laboratories are required to demonstrate that they have addressed the issues raised in the application review findings as part of their commitment to continuously improve their imaging services and ultimately, the patient care they provide. Conversely, laboratories that are delayed, denied, or require a mandatory site visit receive a letter explaining their status and the instructions for proceeding.

As part of the IAC accreditation process, all laboratories that submit an application may be subject to a random site visit. The purpose of the random site visit allows evaluation of IAC internal quality by comparing the findings of the site visit to those of the application reviewers. In addition, for ICANL, a percentage of sites each quarter undergo either mandatory site visit or an audit of those materials generally evaluated during the course of a site visit.

If a laboratory receives accreditation, they are required by their signed accreditation agreement to notify the IAC of any significant changes to their laboratory. This includes any of the following changes:

- a change in Laboratory's name;
- new contact information;
- a change of the individual serving as Medical Director or Technical Director;
- a change in ownership or management;
- discontinuation of an accredited service;
- ceasing to do business;
- a new permanent site; or
- a new mobile service.

These changes may require a review by IAC. Any other laboratory changes are reviewed at reaccreditation.

Delays, Complaints, Compliments

Ultimately, the vast majority of laboratories are granted accreditation; however, initially a substantial number are delayed. Delays occur both with de novo applications as well as reapplications. In reviewing statistics from the past 3 years, of those laboratories that are currently accredited, 65% of the laboratories accredited by the ICAEL originally received a delayed decision. Forty percent of those accredited by the ICAVL, 46% of those accredited by the ICANL, and 52% of those accredited by the ICAMRL originally received a delayed decision. The most common issues causing a laboratory to receive a delayed accreditation decision vary slightly by IAC accrediting body. For all divisions, lack of relevant continuing medical education (CME) at reaccreditation for all mem-

bers of the medical and technical staff causes a significant portion of delays. For initial accreditation applications, if there is insufficient relevant CME for one or more staff members, they are given a provisional 1-year accreditation. During that time, all staff with deficiencies is expected to obtain the CME. However, for re-accreditation, a lack of CME results in delay. CME for each subspecialty requires that it be confined and/or related to the individual imaging modality.

For the ICAVL, most delays are due to incomplete cases that fail to document either sufficient gray-scale images or Doppler samples as required in the Standards. There are also significant delays for technically poor cases that use incorrect Doppler angle-correction technique or inadequate gray scale adjustment for proper visualization of vessel walls and disease. There are also frequent issues related to final reports that result in a delay, such as nonadherence to the diagnostic criteria submitted by the laboratory, use of nonstandard terminology in reporting disease, lack of required report components such as a clear succinct summary, lack of a password-protected electronic signature or handwritten signature, and lack of timeliness of the final report, often up to a week or longer after completion of the examination.

The most common reasons for a delayed accreditation decision among ICAEL laboratories are generally related to examination quality and often are a result of inadequate documentation. These include but are not limited to representative cases submitted with insufficient documentation of multiple interrogation of aortic stenosis (one half of the cases submitted must be aortic stenosis); lack of use of a nonimaging continuous wave transducer; tricuspid regurgitation documented from one view only; and images that are off axis or foreshortened. Many laboratories are delayed for reporting issues that include but are not limited to incomplete reports, use of nonstandard terminology in reporting disease, lack of required report components such as a clear succinct summary or comments on all cardiac structures, lack of a password-protected electronic signature or handwritten signature, lack of sonographer identification on the report, and lack of timeliness of the final report, often up to a week or longer after completion of the examination. Additional delay issues include insufficient time allotted for examination (45 min required for patient scheduling from time of arrival to time of departure) and lack of a comprehensive QA policy and adequate documentation QA especially peer review and correlation.

Within the ICANL program, the majority of the delay issues center around protocols lacking site specific details, report integration (i.e., failure to integrate findings of stress test into imaging findings), failure to comply with all 3 of the required QA components (i.e., administrative, technical, and physician performance), and/or lack of documentation of QA meetings. There are also delay issues related to hot laboratory security and administration of radiopharmaceuticals using correct technique that are generally discovered during the course of a site visit. Commonly a laboratory is delayed if it is not following American Society of Nuclear Cardiology guidelines with regards to acquisition timing (number of projections per study and time of acquisition at each projection). The stress laboratory protocols should contain enough detail with regards to indications for the procedure, how the procedure is performed, and adequate test and post-test monitoring for adverse events. The reports, too, often are a cause for delay. Lack of appropriate information, appropriate terminology, and detailed description of the size, severity location, and reversibility of defects are common reasons for delay. For nuclear cardiology, terminology and reporting standards have been previously published (5,6). It would behoove laboratories applying for accreditation to examine both documents.

Laboratories issued delayed accreditation decisions are provided with specific details regarding the corrections that need to be made and the additional materials to be submitted. After making and submitting the necessary corrections, the laboratory is provided with the Board of Director's revised decision within 4 to 6 weeks of the accrediting body's receipt of the additionally requested materials. Less than 5% of laboratories require a site visit, and no laboratory is denied accreditation without first being given the option of having a site visit.

The IAC accrediting divisions strive to assist laboratories in avoiding a delayed accreditation decision. Articles outlining the common reasons for delay and suggestions for avoiding these pitfalls are periodically published. Laboratory staff members have the opportunity to participate in a series of web casts presented by IAC clinical staff. Participants learn about topics ranging from ensuring that protocols meet minimum requirements to documenting the laboratory's accuracy. Sessions to help ensure that final reports are complete and accurate and that the case studies prepared for submission accurately reflect the quality produced by the laboratory are also available as online web casts.

Complaints to the IAC do occur. The most common are the length of time needed to prepare the appropriate documents for the accreditation process, the need for only a 3-year accreditation, the length of time to receive the final accreditation decision, the need for CME in a specific diagnostic testing modality, the lack of simplicity in reaccreditation, and the cost of accreditation, especially for multiple modality laboratories.

Many laboratories disagree with the 3-year cycle of accreditation and would prefer this to be lengthened. The IAC has evaluated the length of the accreditation cycle numerous times and con-

tinues to think that it is appropriate for several reasons. The major reason is to have the ability to assess ongoing quality and compliance with the Standards. This is particularly relevant with evolving technologies that are occurring in each imaging specialty. Changes in laboratory personnel and operations are frequent during the course of 3 years and are rarely self-reported. The IAC is considering its options for a midcycle review of critical components of an operation as their online applications become available. There are also many suggestions for improvement that are shared with the laboratories and expected to be instituted. At reaccreditation, any changes in the laboratory staff and/or operations and implementation of changes based on the previous reviews can be assessed. Although most laboratories have the best of intentions to follow through on QA initiatives, reaccreditation forces them to do so. Also, the IAC has explored options for securing a deemed status by the Joint Commission for the purpose of eliminating duplicity in accreditation applications. One of the many requirements mandated is a 3-year accreditation cycle. The deemed status is still a consideration for the future.

The IAC hears complaints about consultants. The accreditation process has been designed to be completed by laboratory staff itself and can be part of the education and improvement process. All IAC divisions provide technical and administrative support to help a laboratory through the process. However, a number of laboratories choose to engage outside consultants to assist with the preparation. This is not required, nor does it guarantee accreditation. In fact, approximately 50% of laboratories that use consultants result in either delay or provisional grants. The IAC divisions have no relationship with consultants and, do not list them primarily because of the spotty record of assistance. If a laboratory does choose to use a consultant, the IAC recommends: a detailed proposal outlining services to be provided, references of successful laboratory accreditation and credentialing.

The IAC also receives positive comments. Laboratories have expressed satisfaction that they can display a certificate that demonstrates they meet high national standards. Favorable comments have also included "completing the accreditation process really improved our laboratory" and "We did not realize the lack of consistency in our laboratory until going through the accreditation process." The formalized application process has been used as an opportunity for laboratories to examine all protocols, not only for consistency, but also for changes that have occurred in their specific areas that now can be incorporated into laboratory procedures. This is particularly true in the reports for many of imaging specialties. Standardized and detailed reporting has become the norm for these modalities, and represents the final product of the laboratory. Suggested changes have for the most part been welcomed. This is generally reflected in the reapplication process, which is generally smoother with higher quality. Generally, if a laboratory is delayed for reaccreditation, it is due to changes in Standards and Protocols that were not recognized by the laboratory.

New Technologies

An exciting aspect of all noninvasive cardiovascular imaging subspecialties is the fact that new technologies are emerging. The accreditation process encourages these changes in both procedures as well as imaging techniques. However, if the new development is a departure from previous standards, data must be provided to support such a change. This generally is on the basis of peer-reviewed articles which result in changes in guidelines or practice. The IAC relies upon its multiple sponsoring organizations to provide guidance with regards to emerging technologies and whether these meet national standards. The IAC divisions do not work directly with companies or proprietary data to amend standards, but rather upon peer-reviewed published data, sponsoring organization guidelines and consensus from both. The 3-year renewal process provides a mechanism for relatively rapid changes in the technologies.

Comparison With Alternate Facility Accreditation Programs

There are 2 nationally accepted accrediting bodies for the medical imaging modalities of noninvasive vascular technology, nuclear medicine (including nuclear cardiology and PET), magnetic resonance, and CT: the IAC accrediting divisions discussed within this article and the accreditation program offered by the ACR. Although both programs are highly regarded and equally recognized by insurers, they do have subtle differences. From a philosophical standpoint, the IAC programs are founded on a multidisciplinary, intersocietal approach. whereas the program offered by the ACR is developed and steered by its radiology membership society. Related to actual program differences, the IAC-accreditation programs are developed based upon evaluation of quality standards for the total practice. These accreditation programs focus on evaluating the final product produced by the laboratory, inclusive of both the image and the corresponding final report for both normal and abnormal studies. In contrast, the ACR sets standards with a focus on each imaging system within the facility and quality of performance.

The Future

Each of the IAC organizations has essentially functioned independently under a loose-knit structure that has primarily provided IAC office management. This structure has given independence and careful evaluation of standards, procedures, etc., from within each subspecialty field. However, in recent years, it has become apparent that a more definitive structure is nec-

essary. Many laboratories are seeking accreditation for more than one subspecialty, such as echocardiography and nuclear cardiology. Currently, approximately 20% of laboratories are accredited in more than one subspecialty, primarily because various payers focused on 1 imaging modality at a time. This arrangement has now changed, with insurers requiring multiple accreditations in imaging. In addition, the independence of each organization has resulted in somewhat disparate standards and application process, difficult for a multimodality laboratory to meet.

Finally, issues of cost efficiency of the procedure have become more relevant. As a result, the IAC underwent a complete structural reorganization, completed in early 2008. The resulting structure places much greater responsibility in the hands of the "parent" organization. The resulting changes that will be evident include laboratories being able to apply for multiple subspecialties using a single web based application. This single application will incorporate commonalities, such as the structure of the practice and CME, to mention a few. This will result in efficiencies of the application process for the applying laboratories as well as reduced fees in 2009. The online process, which is already in effect in several of the IAC organizations, will greatly improve the efficiency of the process for the applicant as well as the reviewer.

Conclusions

This document has described the evolution of accreditation in noninvasive cardiovascular imaging throughout the past 18 years. Begun as a voluntary process, accreditation now is mandated by several different organizations and payors. The IAC process has gained considerable strength over these years and is now accepted by payors requiring accreditation for imaging procedures. The alternative accreditation (with the exception of echocardiography) presents a different approach to accreditation and helps to validate the accreditation procedure. Accreditation bodies are constantly responding to concerns expressed by accreditors and nonaccredited laboratories to assure that the process is simplified, fair, and raises the standards of cardiovascular imaging.

Reprint requests and correspondence to: Dr. Gary V. Heller, MD, PhD, Hartford Hospital, Nuclear Cardiology Laboratory, 80 Seymour Street, P.O. Box 5037, Hartford, Connecticut 06102-5037. *E-mail: gheller@harthosp.org.*

REFERENCES

1. Drago J. Findings from The 2002 ICAVL Customer Survey. ICAVL Newsletter, December 2002. Available at: http://www.icavl.org/icavl/news/articles/results.htm. Accessed February 22, 2008.
2. American College of Cardiology Board of Trustees. Statement on Accreditation/Certification. Adopted March 5, 2005. Available at: http://www.acc.org/advocacy/pdfs/accbotaccreditationcertification.pdf. Accessed February 22, 2008.
3. American Society of Nuclear Cardiology. Laboratory Accreditation. Available at: http://www.asnc.org/content_2495.cfm?tagSearch=true. Accessed February 22, 2008.
4. American Society of Echocardiography Proposed Local Coverage Determination (LCD) Language Relating to Laboratory Accreditation and Physician and Sonographer Qualifications for Transthoracic Echocardiography. Published April 27, 2005. Available at: http://www.asecho.org/freepdf/LCD.pdf. Accessed February 22, 2008.
5. Cerqueira MD, Weissman NJ, Dilsizian V, et al. Standardized myocardial segmentation and nomenclature for tomographic imaging of the heart: a statement for healthcare professionals from the Cardiac Imaging Committee of the Council on Clinical Cardiology of the American Heart Association. J Nucl Cardiol 2002;9:240–5.
6. Hendel RC, Wackers FJ, Berman DS, et al. American Society of Nuclear Cardiology consensus statement: reporting of radionuclide myocardial perfusion imaging studies. J Nucl Cardiol 2003;10:705–8.