# **Report to Congress**

Performance Evaluation of Accreditation Bodies under the Mammography Quality Standards Act of 1992 as amended by the Mammography Quality Standards Reauthorization Acts of 1998 and 2004

January 1 to December 31, 2009

**U.S.** Department of Health and Human Services

**Food and Drug Administration** 

\_\_\_\_\_ Date \_\_\_\_\_ Margaret A. Hamburg, MD Commissioner of Food and Drugs

## **Executive Summary**

The goal of the Mammography Quality Standards Act (MQSA) of 1992, as amended by the Mammography Quality Standards Reauthorization Acts of 1998 and 2004, is to assure that facilities meet standards for performing high quality mammography. The Food and Drug Administration (FDA) administers MQSA. Among other things, MQSA provides for FDA-approved accreditation bodies (ABs) to evaluate and accredit mammography facilities based upon quality standards. Only facilities that are accredited by ABs or undergoing accreditation by ABs may receive certificates from the FDA (or a state certifying agency) so that they can legally perform mammography. MQSA requires annual reports to Congress on AB performance. This fourteenth annual report covers the period from January 1 through December 31, 2009.

To implement the MQSA (Section 354q of the Public Health Service Act, (42 United States Code (U.S.C.) 263b)), FDA issued final regulations that became effective on April 28, 1999 (21 Code of Federal Regulations (CFR) Part 900). The final regulations (21 CFR 900.5) require that the FDA's evaluation of ABs shall include a(n):

- (a) Assessment of the reports of FDA or State inspections of facilities accredited by the body as well as any additional information deemed relevant by FDA that has been provided by the AB or other sources or has been required by FDA as part of its oversight initiatives;
- (b) Determination of whether there are major deficiencies in the AB's performance that, if not corrected, would warrant withdrawal of the approval of the AB under the provisions of Section 900.6.

# **Status of Accreditation Bodies**

Currently, there are four ABs: the American College of Radiology (ACR), a private nonprofit organization, and the state ABs of Arkansas (SAR), Iowa (SIA), and Texas (STX). FDA renewed its approval of each of these ABs under the MQSA regulations in 2005. The terms of approval are for a period of 7 years. Although the expiration for renewal is April 28, 2013, FDA will continue to review annually each AB's performance to determine its compliance with the MQSA regulations.

# **Evaluation of Accreditation Bodies**

To assess overall performance, FDA evaluates the ABs in the following areas:

- resource analysis (staffing, funding, information technology capability);
- data management (process/errors)
- reporting and record keeping processes (serious consumer complaint and appeal mechanisms);

- accreditation review and decision making processes (clinical image review, phantom image review, equipment requirements);
- AB onsite visits to facilities (random and for-cause visits);
- random clinical image reviews of facilities (RCIRs);
- additional mammography reviews (AMRs);
- · accreditation revocations and suspensions; and
- quantitative accreditation and inspection information

# FDA evaluates AB performance in the areas listed above through:

- examination of the ABs' responses to FDA questionnaires that address the performance areas;
- analysis of quantitative accreditation and inspection information;
- review of selected accreditation files, as well as clinical and phantom images;
- interviews with AB staff and management to answer questions or clarify issues;
- analysis of information from FDA's Mammography Program Reporting and Information System;
- onsite visits to the ABs; and
- ongoing written and oral communications with the ABs throughout the year.

# Findings from Calendar Year (CY) 2009 AB Performance Evaluations

The following items are the highlights of FDA's CY 2009 Report to Congress:

- All ABs adequately fund their respective programs.
- All ABs take appropriate measures to secure and maintain their accreditation data. The percentage rate of data management errors decreased for one AB and increased for three ABs from the error rates noted in 2008. The three ABs reviewed their practices and performed corrective quality assurance measures in an effort to keep data errors low.
- Each AB administers a satisfactory serious consumer complaint process.
- Each AB uses acceptable procedures to review clinical images submitted by facilities, and has adequate audit procedures for its clinical image reviewers.
- Each AB uses acceptable procedures to review phantom images submitted by facilities, and has adequate audit procedures for its phantom image reviewers.
- Two ABs exceeded the required number of annual onsite visits to facilities they accredit and two ABs met the required number.
- Each AB exceeded the required number of random clinical image reviews of the facilities they accredit.
- The ABs performed AMRs when indicated.
- There were no revocations or suspensions of accreditation in CY 2009.
- Facilities' phantom image scores showed no significant differences across the ABs and these scores improved from those reported in 2008.

- Overall, the rates for units denied accreditation remained about the same as those in the last reporting period.
- For three ABs, the average radiation doses (that are measured by the facility's medical physicist) decreased from those in the previous report and all ABs remain well below the dose limit mandated by the MQSA final regulations.
- Seventy-eight percent of accredited mammography facilities had no MQSA violations. This is an increase from the 75% reported in 2008.
- Only 1.2 percent of facilities had a violation characterized as "most serious." This percentage is an improvement from the 1.5 percent reported in 2008. FDA actively works with these facilities on corrective measures, and takes regulatory actions as indicated.
- The one AB with an action item from CY 2008 successfully completed the item.

FDA and ABs, working in partnership with the certified mammography facilities in the United States, and with the states participating in inspections and other MQSA activities, are ensuring quality mammography across the nation.

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## I. Purpose

The MQSA of 1992 (P.L. 102-539), as amended by the Mammography Quality Standards Reauthorization Acts of 1998 and 2004 (P. L. 105-248 and P. L. 108-365), authorizes FDA to assure that facilities meet standards for performing high quality mammography. FDA administers the MQSA. Among other things, the MQSA provides for FDA-approved ABs to evaluate and accredit mammography facilities based on quality standards. FDA may approve either private nonprofit organizations or state agencies to serve as ABs. The MQSA also requires FDA to submit an annual performance evaluation of the approved ABs to the Senate Committee on Health, Education, Labor and Pension and the House Committee on Energy and Commerce under 42 U.S.C. 263b(e)(6). This report covers the performance of the ABs under the MQSA from January 1 through December 31, 2009.

# **II. Status of Accreditation Body Approvals**

Currently, there are four ABs: ACR, a private nonprofit organization; and the state ABs of SAR, SIA, and STX. FDA renewed its approval of each of these ABs under the MQSA regulations in 2005. The terms of approval are for a period of 7 years. Although the expiration for renewal is April 28, 2013, FDA will continue to review annually each AB's performance to determine its compliance with the MQSA regulations.

#### III. Standards

Under the MQSA, each AB must require facilities it accredits to meet standards that are substantially the same as the quality standards established by FDA under 42 U.S.C. 263b(f) to assure the safety and accuracy of mammography. All ABs have either adopted the MQSA standards by reference or have developed standards that are substantially the same as the quality standards established by FDA. Each AB incorporated the standards into its own accreditation processes.

## IV. Methodology

As outlined in MQSA regulations, FDA evaluates the ABs in the following areas:

- resource analysis;
- data management;
- reporting and record keeping processes;
- accreditation review and decision-making processes;
- AB onsite visits to facilities;
- RCIRs of facilities;
- AMRs;
- accreditation revocations and suspensions; and
- quantitative accreditation and inspection information.

FDA evaluates performance in these areas through:

- examination of the ABs' responses to questionnaires developed by FDA addressing performance indicators;
- analysis of quantitative accreditation and inspection information;
- review of selected accreditation files (including clinical and phantom images);
- interviews with AB staff and management to answer questions or clarify issues;
- analysis of information from FDA's Mammography Program Reporting and Information System database of annual facility inspections;
- onsite visits to the ABs; and
- ongoing written and oral communication with the ABs throughout the year.

FDA staff analyzes unit accreditation pass and fail data, along with data that describe the reasons for each accreditation failure decision. Significant differences in pass and fail rates or reasons for accreditation denial among ABs could, for example, indicate that one AB is interpreting the significance of a particular quality standard more or less strictly than another.

To complement the information submitted by the ABs, MQSA inspectors assess accredited facility performance during inspections by collecting average radiation dose values and by measuring average phantom image scores and average processor speeds. Collectively, these measures reflect the overall functioning of all components of the mammography system.

#### V. Performance Indicators

## A. Administrative Resources and Funding

AB staffs generally include managers, mammography radiologic technologists, MQSA inspectors, health physicists, information technology program application specialists, and administrative assistants. In 2009, all ABs continued to maintain adequate funding and staffing for their respective programs.

## B. Data Management (Process/Errors)

All ABs provide FDA with electronic transmissions of accreditation data in a secure and appropriately maintained manner. From the rates noted in 2008, the percentage rate of data management errors decreased for one AB and increased for three ABs. FDA requested that the three ABs review their practices and perform the necessary quality assurance measures to keep data entry errors low. Additionally, FDA will continue to work individually with the ABs to:

- further minimize the number of data errors;
- emphasize the importance of routinely performing quality assurance and quality control practices to correct errors before transmitting the data; and
- provide reports that outline errors and the frequency with which they occur.

## C. Reporting and Recordkeeping

FDA's review of the ABs' reporting and recordkeeping practices includes examining procedures for handling serious consumer complaints and appeals of accreditation decisions, as well as a procedure for granting interim accreditation.

## 1. Serious Consumer Complaints

The regulations require ABs to develop and administer a consumer complaint mechanism whereby all facilities that an AB accredits must file serious unresolved complaints with their AB. By regulation, each AB must submit to the agency an annual report summarizing all serious complaints received during the previous calendar year, their resolution status, and any actions taken in response to them.

In CY 2009, three ABs received complaints. ACR investigated serious complaints from five consumers; SIA investigated two serious consumer complaints; and STX investigated one serious consumer complaint. Each of these ABs submitted their serious consumer complaint report to FDA which indicated that the ABs followed their approved procedures when resolving the complaints.

#### 2. Appeals

Each AB must have a process for facilities to appeal an AB's adverse accreditation decision. In CY 2009, ACR is the only AB that received appeals. The ACR handled all of the appeals according to its FDA-approved procedures.

#### 3. Interim Accreditation

An AB may grant a 45-day interim accreditation to a fully accredited facility whose MQSA certificate will expire prior to the AB making a renewal decision. The facility must be fully accredited and meet certain criteria in order to obtain interim accreditation. Once the AB grants the facility interim accreditation, FDA (or a state certifying agency) may grant the facility a 45-day interim certificate.

In CY 2009, ACR granted interim accreditation to five of its facilities, SIA granted interim accreditation to one facility, and STX granted interim accreditation to seven of its facilities. Each AB followed its approved procedure for granting interim accreditation.

## D. Accreditation Review and Decision-Making Processes

Review of the ABs' accreditation and decision-making processes includes evaluating procedures for clinical image review, phantom image review, and mammography equipment evaluation and medical physicist annual survey review.

## 1. Clinical Image Review

As part of the accreditation process, mammography facilities must submit clinical images to their ABs for review. To evaluate the ABs' performance in the clinical image review area, FDA's interpreting physicians (IPs) annually review clinical images from a sample of facilities that submit cases to the ABs for accreditation purposes. Generally, two FDA IPs independently conduct clinical image reviews of images from each facility in the sample and for each of the ABs that perform clinical image review. Each examination is evaluated on the eight attributes listed in the MQSA regulations.

ACR, SAR, and SIA have their own clinical image reviewers to evaluate their facilities' clinical images. ACR performs the clinical image reviews for STX under contract. Below is a summary of the results of FDA's clinical image reviews.

#### ACR AB

FDA performed its evaluation of ACR's clinical image review process in October 2009. In reviewing the clinical images and summary evaluation forms, FDA agreed with the final overall assessments (pass and fail) in all of the cases reviewed. FDA determined that this review of cases indicates that the quality of clinical image review by ACR remains high and has not deviated from past performance. In general, the clinical image reviewers are providing adequate feedback to facilities on ways to improve image quality.

#### SAR AB

FDA performed its evaluation of SAR's clinical image review process in September 2009. In reviewing the clinical images and summary evaluation forms, FDA agreed with the final overall assessments (pass and fail) in all of the cases reviewed. FDA determined that this review of cases indicates that the quality of clinical image review by SAR remains high and has not deviated from past performance. In general, the clinical image reviewers are providing adequate feedback to facilities on ways to improve image quality.

# SIA AB

FDA performed its evaluation of SIA's clinical image review process in October 2009. In reviewing the clinical images and summary evaluation forms, FDA agreed with SIA reviewers' final overall assessments (pass and fail) in all of the cases reviewed. FDA determined that this review of cases indicates that the quality of clinical image review by SIA remains high and has not deviated from past performance. Overall, the clinical image reviewers are providing adequate feedback to facilities as an educational tool to aid the facility in improving image quality.

# Summary of Audits and Training of Clinical Image Reviewers by the ABs

## <u>Audits</u>

An audit of clinical image reviewers ensures uniformity, identifies any potential problems, and provides all individual clinical image reviewers with the necessary data to compare his/her results to the rest of the review group. ABs use audit results to enhance reviewer training by emphasizing any performance issues. In 2009, ACR, SAR, and SIA conducted audits of their clinical image reviewers to collect statistics on reviewer agreement and nonagreement rates. The ABs use these rates to identify performance issues that may require corrective action. All reviewers with performance issues completed remedial action by attending a refresher course, reviewing clinical image review protocols and guides, or retired from the program.

## **Training**

ACR, SAR, and SIA have clinical image review quality control activities that promote consistency among the various clinical image reviewers. Each of these ABs conducts training sessions at which clinical image reviewers evaluate clinical images and discuss findings, including the application of AB clinical image review evaluation criteria.

#### 2. Phantom Image Review

As part of the accreditation process, mammography facilities must submit phantom images to their ABs for review. To evaluate the ABs' performance in the phantom image review area, FDA's MQSA expert staff annually review phantom images from facilities that submit cases to the ABs. Two FDA staff, working independently, review randomly selected phantom images from each AB. A third reviewer is used when there is a need for a tie-breaker. The FDA reviewers evaluate all test objects (fibers, specks, masses) on these images to determine whether they agree or disagree with the AB's pass/fail decisions. Below is a summary of the results of FDA's phantom image reviews.

#### ACR AB

FDA reviewed ACR's phantom images in October 2009. FDA reviewers agreed with ACR's scores in all cases and determined that the quality of the phantom image review performed by ACR remains high and has not deviated from past performance.

## SAR AB

FDA reviewed SAR's phantom images in September 2009. FDA reviewers agreed with SAR's pass/fail assessment in all of the cases reviewed. FDA concluded that the quality of the phantom image review performed by SAR remains high and has not deviated from past performance.

#### SIA AB

FDA reviewed SIA's phantom images in October 2009. FDA reviewers agreed with SIA's pass/fail assessment in 9 out of 10 cases. FDA accepts some variability in viewer agreement when the images could reasonably be scored one of two ways, as was the case with the image's score that FDA did not agree with. FDA concluded that the quality of the phantom image review performed by SIA remains high and has not deviated from past performance.

#### STX AB

FDA reviewed STX's phantom images in November 2009. FDA agreed with STX in all of the cases except one. In the one case, FDA passed the image and the STX AB failed the image because of a procedural scoring error. After reviewing the phantom image scoring criteria, STX realized its error and corrected its procedure. FDA determined that the quality of the phantom image review performed by STX remains high and has not deviated from past performance.

# Summary of Audits and Training of Phantom Image Reviewers by ABs

# <u>Audits</u>

An audit of phantom image reviewers ensures uniformity, identifies any potential problems, and provides all individual phantom image reviewers with the necessary data to compare his/her results to the rest of the review group. ABs use audit results to enhance reviewer training by emphasizing any performance issues. In 2009, all of the ABs conducted audits of their phantom image reviewers to collect statistics on reviewer agreement and nonagreement rates. The ABs use these rates to identify performance issues that may require corrective action. All reviewers with performance issues completed remedial action by attending a refresher course or reviewing phantom image review protocols and guides.

# **Training**

All of the ABs have phantom image review quality control activities that promote consistency among the various phantom image reviewers. Each of these ABs conducts training sessions at which phantom image reviewers evaluate phantom images and discuss findings, including the application of AB phantom image review evaluation criteria.

3. Mammography Equipment Evaluation (MEE) and Medical Physicist Survey Report Reviews

The MQSA regulations state that ABs shall require every facility applying for accreditation to submit an MEE with its initial application and prior to accreditation to submit a medical physicist survey on each mammography unit at the facility (21 CFR 900.4(e)). All of the ABs have established FDA-approved policies and procedures for the review of both the MEE and the medical physicist survey report.

#### E. AB Onsite Visits to Facilities

The MQSA regulations (21 CFR 900.4(f)(1)(i)) require that each AB annually conduct onsite visits to at least 5 percent of the facilities the body accredits to monitor and assess facility compliance with the standards established by the body for accreditation. However, a minimum of 5 facilities shall be visited, and visits to no more than 50 facilities are required except in limited circumstances. During such visits, the AB is required to evaluate the following eight core elements:

- assessment of quality assurance activities;
- review of mammography reporting procedures;
- clinical image review;
- review of medical audit system;
- verification of personnel duties;
- equipment verification;
- verification of consumer complaint mechanism; and
- other identified concerns.

At least 50 percent of the facilities visited shall be selected randomly and the other facilities visited shall be selected based on problems identified through state or FDA inspections, serious complaints received from consumers or others, a previous history of noncompliance, or other information in the possession of the AB, the MQSA inspectors, or the FDA (i.e., visits for cause).

#### ACR AB

In CY 2009, ACR accredited 8,306 facilities. It conducted 54 onsite visits (49 random, 5 for cause), thereby exceeding the minimum of 50 onsite visits required by regulation.

## SAR AB

In CY 2008, SAR conducted 4 onsite visits as opposed to the minimum of 5 visits that is required by regulation. To make-up the required onsite visit, SAR conducted 6 visits in CY 2009 (4 random, 2 for cause). SAR accredited 63 facilities in 2009.

# SIA AB

In CY 2009, SIA accredited 124 facilities. It conducted 32 onsite visits (all visits were random), thereby exceeding the minimum of 7 onsite visits required by regulation.

# STX AB

In CY 2009, STX accredited 179 facilities. It conducted 9 onsite visits (8 random, 1 for cause), thereby meeting the minimum of 9 onsite visits required by regulation.

#### F. Random Clinical Image Review (RCIR)

The MQSA regulations (21 CFR 900.4(f)(2)(i)) require that each AB annually conduct RCIRs of at least 3 percent of the facilities the body accredits, to monitor and assess facility compliance with the standards established by the body for accreditation.

# ACR AB

During CY 2009, ACR conducted 296 RCIRs (3.6 percent of the facilities it accredits), thereby exceeding the minimum of the 250 required by regulation.

## SAR AB

SAR conducted 6 RCIRs (9.5 percent of the facilities it accredits) in CY 2009, thereby exceeding the minimum of the 2 required by regulation.

## SIA AB

SIA conducted 34 RCIRs (27.4 percent of the facilities it accredits) in CY 2009, thereby exceeding the minimum of the 4 required by regulation.

## STX AB

STX conducted 8 RCIRs (4.5 percent of the facilities it accredits) in CY 2009, thereby exceeding the minimum of the 6 required by regulation.

## **G.** Additional Mammography Review (AMR)

If FDA believes that mammography quality at a facility has been compromised and may present a serious risk to human health, the facility must provide clinical images and other relevant information, as specified by FDA (or a state certifying agency), for review by the facility's AB (21 CFR 900.12(j)). This AMR helps the agency determine whether there is a need to notify affected patients, their physicians, or the public that the quality of mammograms may have been compromised. The request for an AMR may also be initiated by an AB or a state certifying agency. When an AB initiates an AMR, FDA encourages the AB to discuss the case with the agency prior to performing the AMR.

The following chart summarizes the number of AMRs conducted by each AB during CY 2009:

AB	Number of AMRs	Number Dequiring	Number That
Ab		Number Requiring	
	Conducted or Notification+		Completed
	Initiated*		Notification
ACR	16	1	1
SAR	4	0	0
SIA	0	0	0
STX	0	0	0

<sup>\*</sup>Note: STX has a contract with ACR to conduct its clinical image reviews during an AMR. The other three ABs have their own clinical image reviewers to evaluate their facilities' clinical images.

# H. Accreditation Revocation and Suspension

The MQSA regulations (21 CFR 900.3(b)(3)(iii)(I)) require that each AB have policies and procedures for suspending or revoking a facility's accreditation. If a facility cannot correct deficiencies to ensure compliance with the standards or if a facility is unwilling to take corrective actions, the AB shall immediately notify FDA and shall suspend or revoke the facility's accreditation.

ACR, SAR, SIA, and STX did not revoke or suspend any facility's accreditation in 2009.

<sup>+</sup>Persons notified can include patients, their physicians, or the public.

## I. Quantitative Accreditation and Inspection Information

As additional performance indicators, FDA analyzes quantitative accreditation and inspection information related to unit accreditation pass/fail data; reasons for denial of accreditation; and accredited facility performance during inspections.

Note: There are a relatively small number of state-accredited facilities compared to ACR-accredited facilities.

## Unit Accreditation Pass/Fail Data Sorted by AB

Number of	ACR	SAR	SIA	STX
Units				
Total	4,746	33	59	101
Passed	4,738(99.8%)	33 (100%)	59 (100%)	101 (100%)
Accreditation				
Denied	8(0.2%)	0	0	0
Accreditation*				

<sup>\*</sup>Units that were still denied accreditation as of December 31, 2009.

At the conclusion of the reporting period, the accreditation pass rate of mammography units among the ABs ranged from 99.8 - 100 percent. The rates for units that were denied accreditation remained similar to those in the last reporting period.

# 2. Reasons for Mammography Unit Denial

In CY 2009, clinical image review failure was the major reason for denial of unit accreditation. Phantom image review failure and failure to submit the required materials were the other reasons for mammography units being denied accreditation. Most of the facilities that receive a denial in the accreditation process complete a corrective action plan under the ABs' reinstatement protocols and successfully achieve the levels of quality needed for accreditation.

## 3. Facility Performance During Inspections Sorted by AB

In CY 2009, 77.7 percent of the accredited mammography facilities had no MQSA violations. This percentage is an increase from the percentage (75.4 percent) reported in 2008. Also, in CY 2009, only 1.2 percent of the facilities had a violation characterized as "most serious." This percentage is a decrease from the percentage (1.5 percent) reported in 2008. FDA actively works with these facilities on corrective measures, or takes regulatory measures if a facility cannot improve its performance.

There were no significant differences in average phantom image scores among the facilities accredited by the four ABs. Overall, average phantom image scores improved from those reported in the 2008 Report.

For three ABs, the average doses decreased from those reported in the 2008 Report and all ABs remain well below the dose limit of 300 millirads mandated by the MQSA regulations.

The average processing speeds among the facilities of all the ABs remained similar to those previously reported and remain well within the range to produce satisfactory clinical images. The speed of film processing directly impacts on the quality of mammograms.

	ACR	SAR	SIA	STX
Average	13.1	12.8	12.7	13.2
Phantom				
Image				
Score*				
Average	166.7	161	170.2	178
Dose (in				
millirads)+				
Average	110.3	110.7	106.6	113
Processor				
Speed†				

<sup>\*</sup>The maximum possible phantom image score is 16. Four fibers, three masses, and three speck groups must be visible on the image for a minimum passing score.

#### VI. Status of the Action Items From the 2008 Report to Congress

In 2008, SAR AB conducted 4 onsite visits as opposed to the minimum of 5 visits that is required by regulation. SAR completed its action item (to make-up the required onsite visit) by conducting 6 visits in CY 2009.

#### VII. Conclusion

FDA's AB oversight program promotes collaboration and cooperation. Therefore, each AB, in concert with FDA, addresses any action items that may arise during the year. FDA and the ABs, working in partnership with the certified mammography facilities in the United States and with the states participating in inspection and other MQSA activities, are ensuring quality mammography across the nation.

<sup>+</sup>MQSA regulation requires that the dose not exceed 300 millirads.

<sup>†</sup>For standard cycle processing, 80 – 120 is considered normal processing speed.