Department of Veterans Affairs
Office of Inspector General

Healthcare Inspection

Radiology Issues at a VA Medical Center

Report No. 07-02063-109 **April 8, 2008**

VA Office of Inspector General
Washington, DC 20420

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Executive Summary

The VA Office of Inspector General conducted an inspection to determine the validity of allegations regarding radiology issues at a VA Medical Center.

A complainant wrote the Hotline Division and alleged that a radiologist had extremely high misread rates, causing life shortening and life threatening outcomes for patients. The complainant further alleged that a new process for monitoring radiology productivity does not contain quality standards but focuses on speed, leading to increased misread rates. The complainant alleged that this process, Relative Value Units (RVUs), is now the basis for performance pay and that some radiologists are not spending enough time reading films or are not reviewing all images.

We did not substantiate the allegation that high misread rates affected patient outcomes. However, we concluded that the current department peer review process was ineffective. We recommended that until the atmosphere in the department becomes more collegial and professional, another VA medical center should perform peer reviews. We substantiated that the medical center had recently implemented pay for performance standards, based on RVUs. We did not substantiate that this standard was excessive or contributed to higher misread rates. Because the radiologists were confused about the requirements for productivity and were concerned about workload distribution, we asked the Medical Center Director to consider a consultative visit from the VA Central Office Chief Consultant, Diagnostic Services, Patient Care Services (VACO 115). The Medical Center Director agreed with our request. We identified other radiology administrative concerns during our inspection and asked that the consultant address those as well. We recommended that the medical center implement the consultant's recommendations and that radiologists participate in department staff meetings.

The VISN and Medical Center Directors agreed with our findings and recommendations and submitted an appropriate action plan. We will follow up on proposed actions until they are completed.

DEPARTMENT OF VETERANS AFFAIRS
Office of Inspector General
Washington, DC 20420

TO: Director, Veterans Integrated Service Network

SUBJECT: Healthcare Inspection – Radiology Issues at a VA Medical Center

Purpose

The VA Office of Inspector General (OIG), Office of Healthcare Inspections (OHI), conducted an inspection to determine the validity of allegations regarding radiology issues at a VA Medical Center (the medical center).

Background

The medical center is a tertiary care facility that is part of a Veterans Integrated Service Network (VISN) and provides a broad range of inpatient and outpatient health care services including medical, surgical, mental health, extended care, and specialty services. The medical center has approximately 150 hospital beds and 130 nursing home beds and operates referral and treatment programs. The radiology department provides diagnostic support services to all areas of patient care. The department consists of a chief radiologist, multiple staff radiologists, and administrative staff, including an administrative officer, a secretary, and multiple technicians.

A complainant wrote the Hotline Division and alleged that a radiologist had extremely high misread rates, causing life shortening and life threatening outcomes for patients. The complainant further alleged that a new process for monitoring radiology productivity does not contain quality standards but focuses on speed, leading to increased misread rates. The complainant alleged that this process, Relative Value Units (RVUs), is now the basis for performance pay and that some radiologists are not spending enough time reading films or are not reviewing all images.

In the late 1980's and early 1990's, the American College of Radiology developed a scale in cooperation with the Department of Health and Human Services to aid in Medicare reimbursement.[1] The Veterans Health Administration (VHA) uses RVUs to correlate

[1] Radiology Business Management Association. (2008). *Radiologist Productivity Measurement.* Retrieved February 4, 2008, from http://rbma.org/products/productivity_formula.php

time, intensity, and difficulty of service.[2] RVUs also serve as a benchmark tool for managers to compare workload costs and productivity.[3]

Scope and Methodology

We conducted a site visit from June 26–28, 2007. The Chief of Radiology was on leave during our visit, so we interviewed him via telephone on June 20. On site, we interviewed the complainant; staff radiologists; the radiology department's secretary, administrative officer, quality manager, safety officer, and technicians; medical center quality management staff and senior managers; the Chief of Neurology, and the VISN quality management officer. We reviewed clinical and administrative records; quality management documents; VISN performance measures; VHA policies and procedures; and radiology standards of practice. We also consulted with an outside radiologist. We conducted the review in accordance with the *Quality Standards for Inspections* published by the President's Council on Integrity and Efficiency.

We limited our inspection to allegations concerning events that occurred within the last 2 years. There were multiple other allegations concerning inadequate number of computerized tomography (CT) scanners, insubordination, and incompetent contract ultrasound technicians that we did not address because those incidents had occurred over 2 years ago. The employees we interviewed denied any current problems in those areas. We did not address issues related to multiple Equal Employment Opportunity complaints that alleged discrimination with pay, workload distribution, and promotion opportunities.

Inspection Results

Issue 1: Misread Rates

At the time of our visit, we were unable to substantiate or refute the allegation that a specific radiologist had a higher than average misread rate that contributed to life threatening or life shortening patient outcomes. Peer reviews performed after our inspection refuted the allegation.

Although many radiologists we interviewed provided data for our review, the data was biased because the department was split into factions, with each side providing documentation against the other. VHA defines peer review as a protected, non-punitive, medical center process to evaluate the quality of care at the provider level.[4] Yet this department's peer review process was minimally functional. Rather than an open,

[2] Department of Veterans Affairs. (1998, April). *Radiology/Nuclear Medicine 5.0 User Manual.* Retrieved February 4, 2008, from http://www.va.gov/vdl/documents/Clinical/Radiology_Nuclear_Med/ra5_0um.pdf
[3] Goldsmith, M. (2005, May 30). Apple to Apples – RVU Analysis in Radiology. *Radiology Today*. Retrieved February 4, 2008, from http://www.radiologytoday.net/archive/rt_053005p14.shtml
[4] Department of Veterans Affairs. (2008, January 28). VHA Directive 2008-054, *Peer Review for Quality Management.* Washington, DC.

collegial process to improve patient care, peer review had become another means for each faction to bring forward perceived errors. The peer review information was not rate-based and only included negative outcomes.

There were two components of the department peer review process. The first was a random record selection review. In this review, the radiology quality manager randomly selected particular procedures and patients who had those procedures for a staff radiologist's review. The radiologist then reviewed the documented findings and compared them to the imaging films for accuracy. Those cases were then brought to monthly peer review meetings for discussion. The second component occurred when a radiologist discovered another radiologist's misread and added that case to the peer review discussion list. The radiologists then voted to determine if results were serious enough to require amendments to written reports.

The Chief of Radiology did not attend the meetings. The Chief of Staff and QM Coordinator attended one meeting to review the process and told us that it was not a positive environment for learning. They confirmed that peer review outcomes were decided by majority vote. When the group voted that a radiology report needed to be amended, there was no process in place to track the action. The radiology quality manager told us that in some cases radiologists did not complete report amendments because they disagreed with the vote.

We identified one misread that affected patient outcome. The medical center had already initiated a root cause analysis for that case. The complainant told us that the same radiologist had missed a brain lesion on another patient because the person read too fast or did not read all images. Because the internal peer review process was not reliable, we requested that the medical center immediately send this radiologist's (Physician 3's) cases for peer review outside the facility. During our interviews, staff radiologists questioned the ability to obtain an objective review within the VISN. For that reason, we asked that along with Physician 3 cases, a random sample of all radiologists' cases be peer reviewed outside the VISN to ensure accuracy and competence. The medical center responded by sending 30 random readings per radiologist to an outside peer reviewer at a university college of medicine. The readings included a mix of radiology films from CT, magnetic resonance imaging (MRI), ultrasound, barium enema, upper gastrointestinal (GI), and plain films Those peer review summary comments are listed on the following page.

Peer Review Results

Physician	Minor Discrepancies	Major Discrepancies	Comments
1	0	0	"all cases in agreement"
2	1	0	"interpretations thorough and accurate"
3	3	0	"basically, readings were very accurate"
4	0	0	"all in agreement"
5	6	1	"good correlations"
6	3	1	"basically, readings quite accurate"

The medical center Chief of Radiology reviewed the peer review results and concluded that the two major discrepancies were not significant. He determined that one finding was subjective and the other would not have made a difference in patient management or outcome. Overall, he concluded that the quality of work performed was good and he was pleased with the department's clinical performance. We also interviewed the Chief of Neurology to determine if there were any concerns regarding radiology diagnostic support. He told us that he was pleased with the quality and timeliness of radiology services.

We concluded that the current department peer review process was ineffective. Until the atmosphere in the department becomes more collegial and professional, another VA medical center should perform peer reviews. The radiologist (Physician 3) named in the two questionable cases has since resigned.

Issue 2: Radiology Productivity

We substantiated that the medical center had recently implemented pay for performance standards, based on RVUs. We did not substantiate that this standard was excessive or contributed to higher misread rates.

VHA has set productivity guidelines of at least 5000 RVUs per clinical FTE, averaged over all physicians in Radiology and Nuclear Medicine services.[5] Productivity above the 5000 level is considered best practice, taking care not to compromise quality and patient access standards. While there is no minimum or maximum productivity standard for

[5] Department of Veterans Affairs. (2008, February 7). VHA Directive 2008-009, *Productivity and Staffing Guidance for Imaging Physicians.* Washington, DC.

individual imaging physicians, service chiefs are expected to track individual productivity based on internal expectations and benchmarks.

The medical center had established a productivity level of 5000 RVUs per radiologist, with pay bonuses for those exceeding that standard. This decision was based on their local productivity measures for fiscal year (FY) 2007. VA Medical Center, VISN, and VHA National annualized measures for FY 2007 are listed in the following table:

VA Medical Center RVUs	VISN RVUs	National RVUs
7418	6064	5704

Some of the staff radiologists stated that the intent of the RVUs was only productivity and compromised healthcare quality. They stated that some radiologists were reading studies too quickly and not reviewing all the images. VHA Directive 2008-009 addresses this possibility and states that service chiefs need to monitor performance to ensure diagnostic accuracy. The peer review sample summarized in Issue 1 of this report validates that accuracy had not been compromised.

Imaging procedures are weighted based on complexity. Reading a CT scan would result in more RVUs than reading a chest x-ray. Radiologists complained that workload distribution was not equitable and that some radiologists were only reading complex studies in order to exceed the 5000 RVU level.

Because the radiologists were confused about the requirements for productivity (the Directive had not yet been published at the time of our inspection) and were concerned about workload distribution, we asked the Medical Center Director to consider a consultative visit from the VA Central Office Chief Consultant, Diagnostic Services, Patient Care Services (VACO 115). The Medical Center Director agreed with our request and the Chief Consultant and the Director, Office of Productivity Efficiency and Staffing (10N) visited the facility on September 11.

Issue 3: Other Radiology Issues

During the inspection, we identified other radiology department issues. Several radiologists and administrative staff told us that administrative functions such as leave requests, on call schedules, radiology staff meetings, and other staffing issues were not operating effectively. The department administrative officer was underutilized in terms of tracking administrative issues.

Several radiologists reported issues with time and leave. It was unclear what the process was for requesting leave. Instead of calling the Chief of Radiology, some radiologists called the department secretary to request time off while others were not sure of the process. As a result, radiologists did not know when coworkers were off. Some

radiologists refused to read certain studies when they were on call, so the Chief of Radiology would come in to read them. Radiologists did not have electronic remote access to read studies. Although there were monthly department staff meetings, only the Chief, administrative staff, and technicians attended; radiologists did not attend. Quality of care issues, workload, and other important clinical issues were discussed at these meetings.

Conclusions

Following our onsite visit, the VACO Chief Consultant and Director, Productivity and Staffing provided opinions about the administrative functions of the department; we also reviewed a copy of their report. Their recommendations included considering hiring an assistant radiology chief to handle the scheduling, leave, and on call schedules. Following our review, the Chief of Radiology position became vacant. The medical center has begun recruiting for both chief and assistant chief positions.

Despite the conflict within the department, there was no evidence that productivity, timeliness, and quality were affected. The department met VHA waiting time standards, with the exception of MRIs. A new MRI machine was scheduled to be installed, which should bring that standard into compliance by improving productivity and decreasing waiting times. Ninety eight percent of requested exams are scheduled within 30 days. On average, there were four to ten reported errors per month. This is within the national range.

Recommendations

Recommendation 1. We recommended that the VISN Director ensure that the Medical Center Director continue outside radiology peer review until a new peer process is implemented.

Recommendation 2. We recommended that the VISN Director ensure that the Medical Center Director implement the radiology consultants' recommendations.

Recommendation 3. We recommended that the VISN Director ensure that the Medical Center Director requires that radiologists participate in department staff meetings.

Comments

The VISN and Medical Center Directors concurred with the findings and recommendations and provided acceptable improvement plans (see Appendixes A and B, pages 8–13, for the full text of the Directors' comments). We will follow up on the planned actions until they are completed.

(original signed by:)
JOHN D. DAIGH, JR., M.D.
Assistant Inspector General for
Healthcare Inspections

Appendix A

VISN Director Comments

Department of Veterans Affairs **Memorandum**

Date: March 20, 2008

From: Director, Veterans Integrated Service Network

Subject: **Healthcare Inspection – Radiology Issues at a VA Medical Center**

To: Director, Kansas City Office of Healthcare Inspections (54KC)

Director, Management Review Office (10B5)

I concur with the response.

(original signed by:)

Director, Veterans Integrated Service Network

Appendix B

System Director Comments

Department of Veterans Affairs **Memorandum**

Date: March 13, 2008

From: Director, VA Medical Center

Subject: **Healthcare Inspection – Radiology Issues at a VA Medical Center**

To: Director, Veterans Integrated Service Network

We have reviewed the report of the Office of Inspector General concerning their inspection of the Radiology Department and concur with their findings. My comments and status of completion of proposed actions follow. Timeframes are included for all incomplete actions.

(original signed by:)

Director, VA Medical Center

Director's Comments to Office of Inspector General's Report

The following Director's comments are submitted in response to the recommendations in the Office of Inspector General's report:

OIG Recommendations

Recommendation 1. We recommended that the VISN Director ensure that the Medical Center Director continue outside radiology peer review until a new peer process is implemented.

Concur **Target Completion Date:** October 20, 2008

Although we have pursued a shared peer review process with another VAMC, technical security issues have not yet been resolved by Office of Information Technology (OIT) staff. The Acting Chief of Radiology has implemented a peer review process as follows.

a. A monthly review of 22 cases per full-time radiologist and 15 per part-time radiologist is completed by locums staff who review for completeness and accuracy of the original reading as reflected in the signed report. Errors are divided into major and minor categories. This information is now provided to QM to track and trend by provider. The information is shared with the Chief of Staff (COS) for information and to the Acting Chief of Radiology at intervals to discuss with the radiology providers and is used biannually in the reprivileging process.

b. At the recommendation of the IG and the radiology consultant, Radiology Service has also developed a Mortality and Morbidity type conference. Errors that are found when a radiologist compares current findings with old films and other interesting cases are brought to a monthly conference of all radiologists for review and discussion. Errors annotated as major and minor are recorded and provided to QM to track and trend. This information is included in the same report that is shared with the COS and the Acting Chief of Radiology.

Recommendation 2. We recommended that the VISN Director ensure that the Medical Center Director implement the radiology consultants' recommendations.

Concur **Target Completion Date:** See individual recommendations

a. Recomendation: Increase radiologist staffing to 8 FTE; consider backup interventionalist. Status: Recommend closure

We recently hired 3 locum radiologists and a vascular interventional radiologist. Currently we have 2 vascular interventional radiologists and 7-1/2 staff radiologist including the 3 locum radiologists for a total of 9-1/2 FTE. The Medical Center Director approved a total of 9 FTE including the service chief. Recruitment is under way.

b. Recommendation: Ensure equitable assignment of duties/rotate so that all radiologists are assigned a mix of duties. Status: Pending. Target Completion Date: June 13, 2008.

Current staffing has allowed the Acting Chief of Radiology to make equitable assignments for CT, fluoroscopy, and ultrasound. As soon as we are fully staffed with staff radiologists, we will be able to have completely equitable rotations. Plans are for the rotations to include 2 radiologists assigned to MRI; 2 assigned to CT with 1 assigned daily to ultrasound and 1 to fluoroscopy. Everyone will rotate reading plain films. When fully staffed, everyone will have basically the same amount of interpretations per modality and equitable opportunity for RVU production. The rotation will be reviewed annually to ensure that it is working appropriately. If needed, the schedule will be manipulated to maintain equitable work distribution.

c. Recommendation: Consider Associate Chief position. Status: Pending. Target Completion Date: June 13, 2008.

Associate position advertised but put on hold pending selection of Chief position which is now vacant and at the interview phase.

d. Recommendation: Ensure staff are treated in an equal and transparent manner, in terms of pay and awards (if productivity is considered ensure fairness). Status: Recommend closure.

Productivity is not being considered in awards or pay. We have no plans to do this as RVU system cannot provide reliable individual provider data.

e. Recommendation: Ensure nights and weekends are covered by board eligible radiologist or ensure attending over-reads preliminary reports. Status: Recommend closure

The studies which are interpreted by the residents on the weekend are all over-read by the staff radiologist.

f. Recommendation: A staff radiologist should be assigned on Saturdays/Sundays to read the ICU as well as any emergency studies preliminarily read by residents. On call and weekend duty should ideally be shared by staff in rotation. Status: Recommend closure

Staff radiologists are assigned on call and are available to read emergency studies. New shared weekend coverage is being developed with a university medical center.

g. Recommendation: Pursue external Peer Review Program. Status: Recommend closure.

A VAMC agreed to do peer reviews with our facility. Although we are still pursuing this, we have been unsuccessful in satisfying IT requirements; however, we have developed an internal peer process.

h. Recommendation: Establish common reading room. Status: Pending. Target Completion Date: September 13, 2008.

A room is being configured for a common reading room.

i. Recommendation: Consider teleradiology for on call/at home reading. Status: Pending. Target completion Date: June 27, 2008.

VISN initiative is underway to secure off hours reading through VISN with contract.

Recommendation 3. We recommended that the VISN Director ensure that the Medical Center Director requires that radiologists participate in department staff meetings.

Concur **Target Completion Date:** March 12, 2008

Radiology staff meetings are now mandatory unless excused for all radiologists.

OIG Contact and Staff Acknowledgments

OIG Contact	Virginia L. Solana, Director Kansas City Regional Office of Healthcare Inspections (816) 997-6971
Acknowledgments	Dorothy Duncan, Associate Director Marilyn Stones, Program Support Assistant

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