Department of Veterans Affairs
Office of Inspector General

Office of Healthcare Inspections

Report No. 15-02993-339

Healthcare Inspection

Magnetic Resonance Imaging Patient Safety Screening Central Alabama VA Healthcare System Montgomery, Alabama

August 14, 2017

Washington, DC 20420

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Executive Summary

The VA Office of Inspector General (OIG) conducted a healthcare inspection to determine whether required patient safety screenings were routinely performed and documented prior to magnetic resonance imaging (MRI) completion at the Central Alabama Veterans Health Care System (system), Montgomery, AL. OIG healthcare inspections staff had concerns that patient safety screenings were not consistently performed and documented prior to MRI completion.

More specifically, the system has a sharing agreement with a Department of Defense (DoD) clinic, Lyster Army Health Clinic (Lyster), located on the Fort Rucker Army Base. Lyster provides another option for system patients who elect to undergo MRI services and who find the Montgomery, AL, location to be difficult to access due to distance. However, Lyster staff do not have access to VA electronic health records (EHRs). Similarly, system staff do not have access to Lyster EHRs. The lack of electronic access can pose challenges in the communication of patient information.

MRI uses a magnetic field, radio waves, and a computer to create detailed images of organs and tissues to show whether an injury, disease process, or abnormal condition is present. The areas near MRI scanners pose potential risks to patients, staff, and others because the powerful magnetic field of the scanner attracts metallic objects, creating a risk of flying objects. Patient safety screening is a critical component prior to an MRI because staff must be aware of contraindications, such as electronic, mechanical, or magnetic implants. The Veterans Health Administration (VHA) requires an initial safety screening followed by a more extensive secondary safety screening prior to completing MRIs at a VHA facility.[1]

Like the system, Lyster maintains a continuous quality improvement program to comply with The Joint Commission standards for Ambulatory Health Care. The Joint Commission requires that ambulatory settings have processes in place to address MRI safety risks, including patients with urgent or emergent needs, claustrophobia, and medical implants.[2] We determined that Lyster and VHA staff follow similar requirements regarding safety screening for patients undergoing MRI. We did not find a VHA or system policy addressing documentation requirements of MRI initial or secondary safety screening forms completed by staff at non-VA facilities.

We reviewed a randomized sample of 158 of 2,753 MRI orders (6 percent) completed at the system or at Lyster between September 22, 2014 and September 22, 2015 to evaluate documentation of initial and secondary safety screenings. In September 2015, the system took steps to ensure that staff completed the initial safety screening forms at the time the MRI was ordered for patients who were expected to receive MRIs at Lyster. Of the 158 VHA EHRs we reviewed, we found that 17 patients who received MRIs at Lyster before September 2015 did not have initial safety screenings. However, Lyster

[1] VHA Handbook 1105.05, *Magnetic Resonance Imaging Safety*, July 19, 2012.
[2] Joint Commission EC.02.01.01 EP 14.

staff had completed secondary safety screenings for those patients, documented the secondary screenings in the patients' Lyster EHRs, and completed the MRIs as expected.

We also reviewed the 158 patients for completion of secondary screenings. Consistent with Lyster staff's lack of VHA EHR access, 39 of the 158 patients whose MRIs were completed at Lyster did not have secondary safety screening forms available in their VHA EHRs. We verified that completed secondary safety screenings were maintained in the patients' Lyster EHRs and that copies of the completed forms would be made available if/when the system requested them.

In order to evaluate the extent of safety screening documentation after September 2015, we reviewed 50 of 475 MRI orders (10.5 percent) that were placed in July 2016. Of those 50, 10 orders were excluded because the order was subsequently discontinued or cancelled, staff were unable to contact the patient, or the patient received the MRI through the Veteran's Choice Program.[3] We found that all 40 MRI orders we reviewed that were entered after the system's 2015 change in policy included the required initial safety screening in the VHA EHR.[4]

We made no recommendations.

Comments

The Veterans Integrated Service Network and System Directors concurred with our findings. (See Appendixes A and B, pages 7–8). No follow-up actions are required.

JOHN D. DAIGH, JR., M.D.
Assistant Inspector General for
Healthcare Inspections

[3] Veterans Choice is a program initiated in August 2014 through the Veterans Access, Choice, and Accountability Act (VACAA). Veterans Choice expands eligibility for non-VA care to include veterans who cannot be seen by VA providers within 30 days and veterans who reside greater than 40 miles from a VA facility that can provide the needed care.
[4] VHA Handbook 1105.05, *Magnetic Resonance Imaging Safety*, July 19, 2012.

Purpose

The VA Office of Inspector General (OIG) conducted a healthcare inspection to determine whether required patient safety screenings were routinely performed and documented prior to magnetic resonance imaging (MRI) completion at the Central Alabama Veterans Health Care System (system), Montgomery, AL.

Background

The system is a two-division health care system located in Montgomery and Tuskegee, AL, that provides a range of inpatient and outpatient medical, surgical, mental health, and long term care services. Outpatient care is also provided at six community based outpatient clinics located in Dothan, Fort Rucker, Montgomery, and Monroeville, AL, and in Columbus and Fort Benning, GA.

The Wiregrass, AL, CBOC is located on the Fort Rucker Army Base, which is approximately 20 miles from Dothan and 86 miles from the Montgomery campus. The system has a sharing agreement with a Department of Defense (DoD) clinic, Lyster Army Health Clinic (Lyster), also located on the Fort Rucker Army Base. Lyster provides another option for system patients who elect to undergo MRI services and who find the Montgomery, AL, location to be difficult to access due to distance. However Lyster staff do not have access to VA electronic health records (EHRs). Similarly, system personnel do not have access to the Lyster EHRs. The lack of electronic access can pose challenges in the communication of patient information.

The system is part of Veterans Integrated Service Network (VISN) 7 and serves a veteran population of about 134,000 in central and southeastern Alabama and western Georgia.

MRI

MRI uses a magnetic field, radio waves, and a computer to create detailed images of organs and tissues to show whether an injury, disease process, or abnormal condition is present. The areas near MRI scanners pose potential risks to patients, staff, and others because the powerful magnetic field of the scanner attracts metallic objects, creating a risk of flying objects. Patient safety screening is a critical component prior to an MRI so that staff are aware of contraindications, such as the presence of electronic, mechanical, or magnetic implants. The Veterans Health Administration (VHA) requires an initial safety screening followed by a more extensive secondary safety screening prior to completing MRIs at a VHA facility.[5]

[5] VHA Handbook 1105.05, *Magnetic Resonance Imaging Safety*, July 19, 2012.

- Initial Safety Screening. VHA suggests that the initial screening occur before the MRI appointment is made to identify contraindications and patient preferences (such as open MRI due to claustrophobia). This allows staff to make alternative imaging or other testing arrangements, if indicated. VHA Handbook 1105.05 states that the initial screening can be completed by the ordering physician, clinic staff, the radiology scheduling clerk, or receptionist.[6] It may also be included as part of the MRI order in the EHR. Questions that may be asked during the initial screening would focus on the patient's previous MRI experiences, surgical history, reaction to contrast dye (if applicable), and presence of any mechanical or magnetic implant or metal object.

- Secondary Safety Screening. The secondary screening is a redundant safety measure that duplicates many of the initial screening questions, and expands on potential issues such as medications, surgical history, and the presence of an artificial heart valve, limb, or joint. According to VHA policy, the secondary screening should be completed and signed by the patient and the MRI technologist immediately before the patient enters the MRI scanner room and should be saved to the EHR.[7]

Like the system, Lyster maintains a continuous quality improvement program to comply with Joint Commission standards for Ambulatory Health Care. The Joint Commission requires that ambulatory settings have processes in place to address MRI safety risks, including patients with urgent or emergent needs, claustrophobia, and medical implants.[8]

Relevant Prior OIG Reviews

During a November 2014 Combined Assessment Program (CAP) review we found that the system did not conduct initial MRI screenings and that completed secondary screenings were not saved in patients' EHRs.[9] We made two recommendations to address the issues.[10] As of October 2016, those recommendations were closed.

Current OIG Review

While assisting another OIG directorate in late 2015 with EHR reviews, OIG healthcare inspections staff raised concerns that patient safety screenings were not consistently performed and documented prior to MRI completion.

[6] VHA Handbook 1105.05, *Magnetic Resonance Imaging Safety*, July 19, 2012, cites The American College of Radiology's 2007 guidance document on MRI safe practices, which was updated in 2013.
[7] Ibid.
[8] Joint Commission EC.02.01.01 EP 14.
[9] *Combined Assessment Program Review of the Central Alabama Veterans Health Care System, Montgomery, Alabama,* (Report No. 14-02079-10, November 25, 2014).
[10] The report had seven recommendations; two of the seven recommendations were applicable to this review.

Scope and Methodology

We initiated the review in December 2015 and completed the review in January 2017. We conducted telephone interviews during the weeks of May 2, August 8, and August 15, 2016. We determined that a site visit was not required.

We interviewed the Interim System Director, Chief of Human Resource Management Service, Supervisory Diagnostic Technologist (Imaging Supervisor), MRI technologist, former Chair of the Radiation Safety Committee, Chief of Quality Management, Patient Safety Manager, Performance Improvement Coordinator, and other staff knowledgeable about the issues. We also communicated electronically with the Chief of Radiology. We reviewed relevant EHRs, system policies, Radiation Safety Committee minutes, VHA policy and memoranda, American College of Radiology's guidelines on MRI safety, Lyster's MRI Safety Guidelines, and scanned secondary screenings.

We reviewed a randomized sample of 158 out of 2,753 MRI orders (6 percent) completed at the system or at Lyster between September 22, 2014 and September 22, 2015, to evaluate documentation of initial and secondary safety screenings. We also evaluated whether the extent of safety screening documentation changed over time by reviewing 50 out of 475 MRI orders (10.5 percent) that were placed in July 2016. Of those 50, 10 orders were excluded because the orders were subsequently discontinued or cancelled, staff were unable to contact the patient, or the patient received the MRI through the Veteran's Choice Program.[11]

VHA 2011-005, *Radiology Picture Archiving, and Communication Systems (PACS)*, February 8, 2011 cited in this report, expired February 28, 2016. We considered the policy to be in effect as it had not been superseded by a more recent policy or guidance. In a June 29, 2016 memorandum to supplement policy provided by VHA Directive 6330(1),[12] the VA Under Secretary for Health mandated the "…continued use of and adherence to VHA policy documents beyond their recertification date until the policy is rescinded, recertified, or superseded by a more recent policy or guidance."[13] The Under Secretary for Health also tasked the Principal Deputy Under Secretary for Health and Deputy Under Secretaries for Health with ensuring "…the timely rescission or recertification of policy documents over which their program offices have primary responsibility."[14]

[11] Veterans Choice is a program initiated in August 2014 through the Veterans Access, Choice, and Accountability Act (VACAA). Veterans Choice expands eligibility for non-VA care to include veterans who cannot be seen by VA providers within 30 days and veterans who reside greater than 40 miles from a VA facility that can provide the needed care.
[12] VHA Directive 6330(1), *Controlled National Policy/Directives Management System*, June 24, 2016, amended January 11, 2017.
[13] VA Under Secretary for Health Memorandum. *Validity of VHA Policy Document*, June 29, 2016.
[14] Ibid.

We conducted the inspection in accordance with *Quality Standards for Inspection and Evaluation* published by the Council of the Inspectors General on Integrity and Efficiency.

Inspection Results

Of the 158 VHA EHRs we reviewed, 17 patients who received MRIs at Lyster before September 2015 did not have initial safety screenings. However, Lyster staff had completed secondary safety screenings for those patients and completed the MRIs as expected.[15] In September 2015, the system took steps to ensure that patients expected to receive MRIs at Lyster had initial safety screenings documented in the VHA EHR at the time the VHA provider entered the MRI order into the patient's VHA EHR.

We also found that VHA EHRs did not include evidence of secondary safety screenings for 39 of 158 MRI orders (25 percent) reviewed. Those screenings and MRIs were completed at Lyster. Neither VHA nor the system had a requirement that documentation of completed initial or secondary safety screenings from non-VA clinics would be available in the VHA EHRs.

Initial Safety Screening. We found that the VA EHRs did not include evidence of initial safety screening in 17 of 158 (11 percent) MRI orders reviewed. Those MRIs were performed before September 2015 at Lyster. At that time, system staff did not consistently complete initial screenings for patients who would receive MRIs at Lyster since Lyster staff would not be able to view the information in the patients' VHA EHRs. Instead, Lyster staff relied on their own secondary safety screening that Lyster staff completed and documented in patients' Lyster EHRs prior to the MRI scan. The Lyster secondary safety screening forms included similar questions to VHA initial screening forms.

At the end of September 2014, the system's Imaging Supervisor emailed staff stating that no MRI scans should be completed without an initial safety screening by the system provider. In September 2015, the system implemented an MRI scheduling protocol reiterating that all MRI procedures, regardless of scheduled location, required a completed initial safety screening or the procedure would not be scheduled. In the absence of an initial safety screen, the order would be cancelled and the provider would receive an alert.

We reviewed 40 MRI orders placed in July 2016 and verified that all orders had a corresponding initial safety screen.

Secondary Safety Screening. We found that the VHA EHRs did not include evidence of secondary safety screenings for 39 of 158 MRI orders (25 percent) reviewed. Those secondary safety screenings and MRIs were completed at Lyster. We verified that completed secondary safety screenings were maintained in the patients' Lyster EHRs. Those forms were not routinely forwarded to the system and made available in the VA EHRs. System leadership reported that Lyster staff readily provided copies of the secondary safety screenings, when requested.

[15] VHA Handbook 1105.05, *Magnetic Resonance Imaging Safety*, July 19, 2012.

System staff informed us that copies of the Lyster MRI studies were transported on a CD, loaded into the PACS[16] system at the system, and dictated by a VHA radiologist into the VHA radiology studies electronic program. The reports were transmitted from the dictation software into VHA EHRs.

Conclusions

The system has a sharing agreement with Lyster to complete MRIs. However, Lyster staff do not have access to VHA EHRs. We found that 17 patients who received MRIs at Lyster before September 2015 did not have initial safety screenings documented in their VHA EHRs. However, neither VHA nor the system had a requirement that copies of those screenings be available in the VHA EHRs. Lyster staff had completed secondary safety screenings for those patients which contained similar questions to VHA initial screening forms, documented the secondary screening in the Lyster EHRs, and completed the MRIs as expected. In September 2015, the system took steps to ensure that initial patient safety screenings were documented in the VHA EHRs at the time the VHA provider ordered the MRI. We found that all 40 of the 475 MRI orders we reviewed that were entered after the system's 2015 change in policy included the required initial safety screening in the VHA EHR.

We also found that the VHA EHRs did not include evidence of secondary safety screenings for 39 of 158 MRI orders (25 percent) we reviewed. Those screenings and subsequent MRIs were completed at Lyster. We did not find a requirement that copies of those screenings be available in the VHA EHRs. We verified that completed secondary safety screenings were maintained in the patients' Lyster EHRs. Copies of the forms would be made available if/when the system requested them.

We made no recommendations.

[16] VHA Directive 2011-005, *Radiology Picture Archiving and Communication Systems (PACS)*, February 8, 2011. "Picture Archiving and Communication Systems (PACS) are computer-based medical systems dedicated to the storage, retrieval, distribution, and presentation of images. The medical images are stored in an independent format." This Directive expired February 28, 2016 and has not yet been updated.

Appendix A

VISN Director Comments

Department of Veterans Affairs

Memorandum

Date: July 6, 2017

From: Network Director, VA Southeast Health Care Network (10N7)

To: Director, Atlanta Office of Healthcare Inspections (54AT)

CC: Director, Management Review Service (10AR)

Subj: Draft Report: Healthcare Inspection— Magnetic Resonance Imaging Patient Safety Screening Central Alabama VA Healthcare System, Montgomery, Alabama

1. I have reviewed the Office of Inspector General (OIG) Draft Report: Healthcare Inspection— Magnetic Resonance Imaging Patient Safety Screening regarding Central Alabama VA Healthcare System, Montgomery, Alabama.

2. I concur with the draft report and findings.

3. Thank you for your support to improve the services and processes at CAVHCS for the best outcomes for our Veterans. If there are any questions, please contact the Chief, Quality Management at (678) 924-5700.

(original signed by :)
Leslie Wiggins
Director

Appendix B

System Director Comments

Department of Veterans Affairs

Memorandum

Date: June 15, 2017

From: Director, Central Alabama Veterans Health Care System (619/00)

To: Director, VA Southeast Health Care Network (10N7)

CC: Director, Management Review Service (10AR)
Director, Atlanta Office of Healthcare Inspections (54AT)

Subj: Draft Report: Healthcare Inspection— Magnetic Resonance Imaging Patient Safety Screening Central Alabama VA Healthcare System, Montgomery, Alabama

1. We reviewed the Office of Inspector General (OIG) Draft Report: Healthcare Inspection— Magnetic Resonance Imaging Patient Safety Screening regarding Central Alabama VA Healthcare System, Montgomery, Alabama.

2. We concur with the report and findings.

3. Thank you for your support as we continue to improve the services and processes at CAVHCS for the best outcomes for our Veterans. If there are any questions, please contact Central Alabama VA Healthcare System, Montgomery, Alabama (334) 272- 4672.

(original signed by :)

Garth G. Miller
Interim Associate Director, Operations

FOR Linda L. Boyle, DM, RN
Director

Appendix C

OIG Contact and Staff Acknowledgments

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