Department of Veterans Affairs
Office of Inspector General

Office of Healthcare Inspections

Report No. 13-00505-348

Healthcare Inspection

Emergency Department Patient Deaths Memphis VA Medical Center Memphis, Tennessee

October 23, 2013

Washington, DC 20420

To Report Suspected Wrongdoing in VA Programs and Operations:
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Executive Summary

The VA Office of Inspector General Office of Healthcare Inspections conducted an inspection in response to an allegation of inadequate care for patients who died in the Emergency Department (ED) at the Memphis VA Medical Center (the facility), Memphis, TN. The complainant alleged that a patient died after a physician ordered a medication for which the patient had a known drug allergy; another patient died after being administered multiple sedating drugs and not being monitored properly; and a third patient died after delays in getting treatment for very high blood pressure.

We substantiated that a patient was administered a medication in spite of a documented drug allergy, and had a fatal reaction. Another patient was found unresponsive after being administered multiple sedating medications. A third patient had a critically high blood pressure that was not aggressively monitored and experienced bleeding in the brain.

We found that the facility had completed protected peer reviews of the care for all three patients. Two of the deaths were also evaluated through root cause analyses (RCAs), quality reviews designed to identify and correct systemic factors and conditions that may pose a threat to patient safety. However, we found that RCA action plan implementation was delayed and incomplete.

We recommended that the Facility Director confer with Regional Counsel for possible disclosure to the surviving family member(s) of Patient 3, and ensure that processes are strengthened to monitor RCA action plans and ensure that they are completed. We also recommended that processes be strengthened to improve patient monitoring in the ED, and that unit specific competency assessments be completed for ED nursing staff.

Comments

The Veterans Integrated Service Network and Facility Directors concurred with our recommendations and provided an acceptable action plan. (See Appendixes A and B, pages 7–10 for the Directors' comments.) We will follow up on the planned actions until they are completed.

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

Purpose

The VA Office of Inspector General (OIG) Office of Healthcare Inspections reviewed allegations regarding three patient deaths in the Emergency Department (ED) of the Memphis VA Medical Center (the facility).

Background

The facility is part of Veterans Integrated Service Network (VISN) 9. It provides acute medical and surgical care, as well as a full range of primary, specialty, and subspecialty services, with a 22 bed ED and 244 operating inpatient beds.

An anonymous complainant alleged that:

- A patient died after a physician ordered a medication for which the patient had a known drug allergy.
- Another patient died after being administered multiple sedating drugs and not being monitored properly.
- A third patient died after delays in getting treatment for very high blood pressure.

We previously inspected the facility's ED in 2012, after a confidential complainant alleged that delays and conditions in the ED were putting patients at risk. Findings were published in the report*, Healthcare Inspection – Emergency Department Delays,* Memphis VA Medical Center, Memphis, TN, Report No. 11-04090-253, published in August 2012. The facility is still in the process of taking follow-up actions.

Scope and Methodology

We conducted a site visit May 29–31, 2013. We interviewed providers and other staff involved in the care and treatment of ED patients, and other clinical and administrative staff knowledgeable about the ED and internal processes, and toured the facility's ED.

We reviewed VHA and local policies, committee minutes, Quality Management documents, and other relevant documents, and the electronic health records (EHRs) of three patients.

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

Case Summaries

Patient 1. The patient arrived at the facility ED complaining of back and neck pain. The ED triage[1] nurse documented in the EHR that the patient's condition was non-urgent, listed the patient's allergies, including aspirin, and indicated that the allergies were verified with the patient. A physician's progress note entered approximately 3½ hours later made no mention of allergies. The physician ordered ketorolac (a non-steroidal anti-inflammatory pain medication) to be administered intramuscularly for the patient's back pain. This medication is contraindicated for patients with an allergy to aspirin. The physician's order for ketorolac was hand-written rather than being entered into the EHR as required by local policy. Entering the order electronically would have generated an alert that the medication was contraindicated due to the patient's drug allergy. A few minutes after the physician wrote the order, a staff member administered the ketorolac, and the patient was discharged from the ED approximately 10 minutes after receiving the medication. An hour later the patient returned to the ED by ambulance in full cardiac and respiratory arrest. A different physician saw the patient and noted the drug allergy. The patient had a breathing tube inserted, was placed on a ventilator, and was transferred to the Medical Intensive Care Unit (MICU). The patient died 8 days later after the family agreed to discontinue life support.

Patient 2. The patient arrived at the facility ED complaining of back pain described as "10" on a scale of 0 (no pain) to 10 (unbearable pain). A physician saw the patient and hand-wrote orders for hydromorphone (a narcotic pain medication) 2 mg to be administered intravenously[2] (IV), ondansetron (an anti-nausea medication) 4 mg IV, lorazepam (a tranquilizer) 1 mg IV, and dexamethazone (a potent steroid medication with anti-inflammatory properties) 4 mg IV). Both hydromorphone and lorazepam have sedating properties.

The patient was in a "Level 2" ED bed, not in the main ED area. The patient rooms in this area are not visible from the main ED and do not have bedside electrocardiographic, oxygen saturation, or vital signs monitors connected to the central monitoring system in the main ED. The patient was connected to a portable oxygen saturation monitor that should alarm if there is a critical change in oxygen saturation level; however, staff would have to be within hearing range of the monitor since it was not connected to a centralized monitoring system. According to the EHR, the registered nurse (RN) checked on the patient 45 minutes after administering the medications and found him to be unresponsive and not breathing. ED staff began resuscitation efforts, a breathing tube was inserted, and the patient was placed on a ventilator. He was transferred to the MICU, where he remained in a coma until he died 13 days later. A

[1] Triage is the assessment of urgency to decide the order of treatment of injuries and illnesses.
[2] Medications administered intravenously have a faster onset of action, often with more intense effects.

retrospective review by the facility revealed that the oxygen saturation monitor had stopped recording data approximately 40 minutes before the patient was found unresponsive.

Patient 3. The patient had a history of frequent hospitalizations and complex medical issues, including hypertension, diabetes, congestive heart failure, and end stage renal disease requiring dialysis. The patient arrived at the facility ED complaining of shortness of breath and eye pain. He was noted to have an extremely elevated blood pressure and an ED physician entered an order in the EHR for hydromorphone 1 mg IV and hydralazine (a vasodilator[3]) 20 mg IV. Approximately one hour later, a nurse documented that the patient was confused, but a subsequent note stated that he was alert and oriented. EHR progress notes reflected that the RN notified the physician that the patient's blood pressure readings remained very high, but there is no notation that the physician was alerted about the patient's confusion. A second dose of hydralazine was administered about two hours after the first dose, and the physician documented about an hour after the second dose that the patient was "improving slowly." Shortly afterwards, another physician came on duty and documented that patient was awaiting admission to an inpatient unit. About an hour later, the RN documented that the patient again complained of eye pain. A few minutes after that, the patient was found unresponsive. A CT scan[4] detected bleeding in the patient's brain. A breathing tube was inserted and the patient was placed on a ventilator in the ED, transferred to the MICU approximately 4 hours later, and died the following day.

Issue 1: Patient Deaths in the ED

We substantiated the allegation that three patients died subsequent to care they received in the facility's ED.

Hand written orders for Patient 1 did not comply with the facility's requirement that all provider orders and patient care be documented in the EHR. Since the orders were not entered into the EHR, systems in place to prevent medication errors were bypassed.

When we interviewed staff, we did not get a clear response about what happened with Patient 2's oxygen saturation monitor. One staff member believed that the monitor slipped off the patient's finger and no one heard and/or responded to the alarm. We were unable to establish whether or not the alarm sounded, but we were told that tests done on the monitor after the event showed the alarm was functional. Since the patient was physically located away from the main ED, it is possible that staff would not have heard the alarm.

Patient 3 had preexisting hypertension and multiple comorbidities, but his deterioration may have been prevented if appropriate antihypertensive medications had been given more aggressively.

[3] A vasodilator is a medication that lowers blood pressure by relaxing blood vessel walls, causing them to dilate.
[4] A computed tomography (CT) scan is an imaging method that uses x-rays to create pictures of cross-sections of the body.

Issue 2: Facility Response to Patient Deaths

We reviewed facility peer review and root cause analysis (RCA) processes to evaluate if actions taken by the facility following the patient deaths were appropriate. We found that the RCA process needed improvement.

Peer Reviews. Required by VHA, peer review is "an organized process carried out by an individual health care professional or select committee of professionals, to evaluate the performance of other professionals."[5] Typically, a peer review is completed when there is an unexpected death of a patient. We found that peer reviews of medical and nursing care were completed on all three patients in accordance with VHA guidelines.

Focused Professional Practice Evaluations. The two physicians involved in the care of the three patients had Focused Professional Practice Evaluations (FPPEs) put in place after the adverse events. FPPEs are a method of oversight of a physician's practice, and may be used when a question arises regarding a currently privileged provider's ability to provide safe, high-quality patient care. The ED Section Chief reviewed the patient care provided by these physicians over a 6-month period, concluded that the physicians' performance was satisfactory, and reported the FPPE results to the facility's Professional Standards Board.

Institutional Disclosure. Institutional disclosure is when a facility informs a patient and/or their families that a serious adverse event has occurred, and advises them of their rights, including the right to file a tort claim.[6] We found that the facility completed institutional disclosure for Patients 1 and 2, and adhered to VHA requirements. An institutional disclosure was not completed for Patient 3.

RCA. RCA is another type of review required by VHA after certain adverse events.[7] An interdisciplinary team, comprised of those knowledgeable about the processes involved, completes an event analysis that focuses more on systems and processes than individual performance. All aspects of the process are to be reviewed and all contributing factors considered. An RCA should identify changes that could be made in systems and processes to improve performance and reduce the risk of the adverse event recurrence. VHA's National Center for Patient Safety[8] provides guidance to facility patient safety managers (PSMs), who oversee the RCA process and are responsible for documenting all of the RCA milestones, including actions taken and outcomes.

We interviewed staff about the RCA process for Patient 1 and Patient 2. We were told that monitoring of action plan implementation did not occur. Although both RCAs listed

[5] VHA Directive 2010-025, *Peer Review for Quality Management,* June 3, 2010.
[6] VHA Handbook 1004.08, *Disclosure of Adverse Events to Patients,* October 2, 2012.
[7] VHA Handbook 1050.01, *VHA National Patient Safety Improvement Handbook,* March 4, 2011.
[8] http://vaww.ncps.med.va.gov/

specific monitoring criteria to be met in order to complete the RCA process, the monitoring was not done before the RCAs were completed and closed. When asked how compliance with the action plan was determined, we were told that the PSM "just asks someone if they did it," not retaining or requiring any documentation.

Additionally, the RCA documentation we reviewed contained several errors of fact, such as how long Patient 1 was monitored in the ED before discharge and the number of intravenous medications given to Patient 2.

Issue 3: Other ED Issues

Nursing staff competency validation. We found that ED nursing staff did not have competencies validated for any ED-specific skills. This was confirmed by a review of the competency assessment and validation documentation of four members of the nursing staff who had been involved in the care of Patients 1, 2 and 3.

ED physical layout. We found that the physical layout of the ED does not allow for adequate monitoring of all patients. Since there is no central monitoring system for some rooms, alarms from monitoring equipment in these rooms might not be heard. This issue had been identified as a risk for patients during our 2012 inspection.

Conclusions

We substantiated that a patient was administered a medication in spite of a documented drug allergy, and had a fatal reaction. Another patient was found unresponsive after being administered multiple sedating medications. A third patient had a critically high blood pressure that was not managed aggressively, and experienced bleeding in the brain approximately 5 hours after presenting to the ED.

We found that the facility took actions as required by VHA in response to the unexpected patient deaths, but noted that implementation of action plans developed through RCAs was delayed and incomplete.

We found inadequate monitoring capabilities for patients in some ED rooms, an issue identified during our site visit last year.

We also found that nursing ED-specific competency assessments had not been completed.

Recommendations

Recommendation 1. We recommended that Facility Director confer with Regional Counsel for possible disclosure to the surviving family member(s) of Patient 3.

Recommendation 2. We recommended that the Facility Director ensure that root cause analysis action plans are documented, monitored, and completed promptly.

Recommendation 3. We recommended that the Facility Director ensure that patients are appropriately monitored in all emergency department rooms.

Recommendation 4. We recommended that the Facility Director ensure that unit-specific competency assessments are completed for emergency department nursing staff.

Appendix A

VISN Director Comments

Department of Veterans Affairs **Memorandum**

Date: September 19, 2013

From: Director, VA Mid South Healthcare Network (10N9)

Subject: **Healthcare Inspection – Emergency Department Patient Deaths, Memphis VA Medical Center, Memphis, TN**

To: Director, Bay Pines Office of Healthcare Inspections (54SP)
Director, Management Review Service (VHA 10AR MRS OIG Hotline)

1. Please see the attached response to the Healthcare Inspection, Emergency Department Patient Deaths, Memphis VA Medical Center, Memphis, TN (2013-00505-HI-0387) conducted May 29-31, 2013.

2 I concur with the responses.

3. If you have any questions, contact Cynthia Johnson, VISN 9 Quality Management Officer. Ms. Johnson can be reached at (615) 695-2143.

(original signed by:)
JOHN E. PATRICK
Network Director

Appendix B

Facility Director Comments

Department of Veterans Affairs **Memorandum**

Date: September 17, 2013

From: Director, Memphis VA Medical Center (614/00)

Subject: **Healthcare Inspection – Emergency Department Patient Deaths, Memphis VA Medical Center, Memphis, TN**

To: Director, VA Mid South Healthcare Network (10N9)

1. Attached please find the VA Medical Center at Memphis' response to the Healthcare Inspection – Emergency Department Deaths, Memphis VA Medical Center, Memphis, TN (2013-00505-HI-0387) conducted May 29-31, 2013. I concur with the responses.

2. If you have any questions regarding the information provided, please contact Jan Slate, Accreditation Manager, Quality Management and Performance Improvement. Mrs. Slate can be reached at (901) 577-7379, menu choice #5.

(original signed by:)
C. DIANE KNIGHT, MD
Medical Center Director

Comments to OIG's Report

The following Director's comments are submitted in response to the recommendations in the OIG report:

OIG Recommendations

Recommendation 1. We recommended that Facility Director confer with Regional Counsel for possible disclosure to the surviving family member(s) of Patient 3.

Concur with the recommendation.

Target date for completion: September 19, 2013

Facility response: On September 9, 2013, the Chief of Staff and the Risk Manager consulted Regional Council regarding the case. After review of the case it was agreed by all parties to conduct institutional disclosure with the family. The Chief of Staff, the Deputy Chief of Staff, and the Risk Manager will conduct institutional disclosure with the patient's family on Thursday, September 19, 2013.

Recommendation 2. We recommended that the Facility Director ensure that root cause analysis action plans are documented, monitored, and completed promptly.

Concur with the recommendation.

Target date for completion: Completed.

Facility response: To ensure completion of all Root Cause Analysis (RCA) actions and outcome measures, an RCA Action Tracker was established in June, 2013. This Tracker includes all RCAs initiated during FY13. The RCA Tracker was approved by the Quality Executive Board (QEB), which is chaired by the Medical Center Director, on June 21, 2013. Updates from the RCA Tracker will be reported quarterly to QEB to identify incomplete and/or non-compliant items. Each RCA is presented to Executive Leadership within the 45-day expectancy by the RCA Team. At the conclusion of each presentation, the RCA Team is instructed on items which require outcome measurements, monitoring, analysis, and conclusions. Assignments for monitoring as determined by Executive Leadership are recorded on the RCA Tracker.

Recommendation 3. We recommended that the Facility Director ensure that patients are appropriately monitored in all emergency department rooms.

Concur with the recommendation.

Target date for completion: October 31, 2013

Facility response: All patients in Level 1 ED (the main ED area) are placed on Cardiac Monitors. The Centralized Monitor Technicians watch the ED monitors remotely while

the ED nurses can watch them on a small centralized screen. A 40" display screen has been installed under the EDIS board in Level 1 to facilitate monitor viewing. To ensure the monitor alarms stay on high volume, the monitors are checked each shift by the Nurse Manager and/or the charge nurse. The ED Chief Nurse will conduct random checks every week on alarm volume. Four additional 40" display screens have been ordered that will be placed in each corner in Level 1 ED so they are visible from anywhere in the main ED area.

The patient monitoring equipment for Level 2 is on station and is in process of being installed with an estimated completion date of late October. At that time the Level 2 cardiac monitored beds will also be watched remotely by the Centralized Monitor Technicians. When the patient monitoring equipment is installed, then all patients in the ED, Level 1 and Level 2, will be cardiac monitored. As in Level 1, a 40" display screen will also be installed under the EDIS board in Level 2. Currently, Level 2 provides care for less critical patients. If the Level 1 monitored beds are at capacity and another patient requires monitoring, the patient is placed on a bed transport monitor, and an RN is assigned to sit one-to-one with that patient until a bed becomes available in Level 1.

Recommendation 4. We recommended that the Facility Director ensure that unit-specific competency assessments are completed for ED nursing staff.

Concur with the recommendation.

Target date for completion: November 30, 2013

Facility response: A new educator has been assigned to the ED. The ED Nurse Educator, the ED Nurse Manager, and Quality Management staff have been working together to develop and identify ED specific competencies. It is expected that full competency verification will be completed by October 31, 2013, on existing staff and newly hired employees.

The Educator is currently obtaining educational materials for stroke, myocardial infarction, pneumonia, and sepsis. The Chief Nurse, Ambulatory Care, is working with AFGE, the local professional Union, concerning the requirement for Trauma Nursing Core Course (TNCC) certification for emergency department nurses.

The Emergency Severity Index (ESI) process review certificates for FY14 have been received. It is planned to complete this competency for FY14 by November 30, 2013.

Standard Operating Procedures (SOPs) have been developed regarding the care of patients who present with specific symptoms and complaints. These SOPs are being reviewed by the Nurse Practice Council for final approval before being put into practice. The next Nurse Practice Council meeting is October 3, 2013, and a decision should be made at that time.

Appendix C

OIG Contact and Staff Acknowledgments

Contact	For more information about this report, please contact the OIG at (202) 461-4720.
Contributors	Karen McGoff-Yost, MSW, LCSW, Team Leader Carol Torczon, MSN, ACNP Jerome Herbers, MD Jackelinne Melendez, MPA

Appendix D

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