Department of Veterans Affairs
Office of Inspector General

Healthcare Inspection

Telemetry Monitoring Issues
VA Eastern Colorado Health Care System
Denver, Colorado

Report No. 09-01047-69

January 21, 2010

VA Office of Inspector General
Washington, DC 20420

To Report Suspected Wrongdoing in VA Programs and Operations

Telephone: 1-800-488-8244 between 8:30AM and 4PM Eastern Time, Monday through Friday, excluding Federal holidays

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Executive Summary

The purpose of this review was to determine the validity of allegations regarding inadequate telemetry heart monitoring practices and lack of staff training that related to two patient deaths at the VA Eastern Colorado Health Care System (the system), Denver, Colorado. The complainant specifically alleged that despite notifying system management of concerns regarding the telemetry program, including incompetency and lack of training of telemetry staff, no action was taken to improve processes until patient deaths occurred. Our report addresses the complainant's allegations regarding processes at the time of the patients' deaths.

We concluded that both patients had multiple medical problems that contributed to their deaths, and it would be difficult to determine whether delays in response to abnormal cardiac rhythms led to their demise. We did not substantiate the allegation that the deaths were a result of inadequate telemetry monitoring or lack of staff training. However, delays in notification of abnormal cardiac rhythms and in physical assessment could make a difference for other patients.

We substantiated the allegation that management had been informed of problems with the telemetry program prior to the death of the first patient. Memorandums and electronic messages, dated as early as July 2007, demonstrate that concerns were brought forward to nursing management. While nursing management acknowledged suggestions made in the messages they received, there was no clear course of action assigned to address concerns raised in these messages.

We substantiated the allegation that there were competency and training issues with medical support assistants and registered nurses assigned to telemetry prior to the death of the first patient. Although telemetry staff had initial telemetry training, there was no formal process to assess ongoing competency until after the Root Cause Analysis (RCA) was conducted following the death of the first patient. Medical support assistants that performed telemetry monitoring did not have appropriate clinical supervision.

At the time of our site visit, the system was in the process of implementing changes based on recommendations from the RCAs they had conducted regarding the two patients. Temporary measures were enacted to ensure safe patient care following the first patient's death. The VISN had been actively involved in monitoring the system's progress in implementing changes following their receipt of the first RCA report.

The VISN and System Directors concurred with our recommendations to evaluate the telemetry program in its entirety, require that all staff complete competency assessments for their specific positions and that training be provided as needed to maintain competency, and that there be clinical oversight of medical support assistants.

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

TO: Director, VA Rocky Mountain Network (10N19)

SUBJECT: Healthcare Inspection – Telemetry Monitoring Issues, VA Eastern Colorado Health Care System, Denver, Colorado

Purpose

The VA Office of Inspector General (OIG), Office of Healthcare Inspections conducted an inspection to determine the validity of allegations regarding inadequate telemetry heart monitoring practices and lack of staff training that related to two patient deaths at the VA Eastern Colorado Health Care System (the system), Denver, Colorado.

Background

The system is in the VA Rocky Mountain Network – Veterans Integrated Service Network (VISN) 19. The system provides comprehensive healthcare through primary care, tertiary care, and long-term care in the areas of medicine, surgery, psychiatry, physical medicine and rehabilitation, neurology, oncology, dentistry, geriatrics, and extended care. It is affiliated with the medical, pharmacy, and nursing schools of the University of Colorado Health Sciences Center. Residency programs are maintained in internal medicine, surgery, psychiatry, neurology, physical medicine and rehabilitation, anesthesia, pathology, radiology, and dentistry.

The OIG Hotline Division received a complaint that there have been two patient deaths related to the inadequacy of telemetry heart monitoring at the system. The complainant specifically alleged that despite notifying system management of concerns regarding the telemetry program, including incompetency and lack of training of telemetry staff, no action was taken to improve processes until patient deaths occurred. The system conducted Root Cause Analyses (RCAs) following the patient deaths and at the time of our site visit, was in the process of implementing changes based on the RCA recommendations. This report addresses the complainant's allegations regarding processes at the time of the patients' deaths and prior to the RCAs.

The centralized telemetry monitoring station was located in the medical intensive care unit (MICU). The actual telemetry beds were located on two units remotely located from

the monitoring station. Twelve telemetry beds were located on an acute care medical unit (in the process of expanding to 16 beds) and 4 telemetry beds were located on a surgical unit. When the medical center changed their organizational structure from traditional services to service lines in the late 1990s, ward clerks received training that consisted of a 3-day electrocardiogram (EKG) class. Upon passing the required test at the end of the class, these ward clerks were reclassified from General Schedule (GS) grade 5 to medical support assistants (MSAs) at a GS grade 6. In addition to ward clerk duties such as answering telephones, timekeeping, maintaining medical records, ordering supplies, and responding to patients and family members, each qualified MSA served as a telemetry technician. Any newly hired MSA also completed the EKG training and test. Telemetry technicians maintained surveillance of the central monitoring station at all times. There is a ceiling for 28 full-time MSAs with a current staff of 25, including 2 light duty registered nurses (RNs). Two lead MSAs, who report to an administrative supervisor program specialist, provide direct supervision. The MSA positions are organizationally structured under the Associate Director for Patient Care Services (ADPS), who is a RN.

According to local policy, MSAs are responsible for registering patients into the main telemetry monitoring system and continuously monitoring the patient's cardiac rhythm. They are to ensure that parameter alarms are on when the patient is monitored and set the ordered alarm rates. If there are significant rate changes, they are responsible for notifying a RN on the unit where the patient is located. There are telephones located on the medical and surgical unit that are only used for communication from the central telemetry monitoring station. The charge RNs on the units are also required to carry digital pagers.

RNs on the two units are responsible for routine patient care for telemetry patients, as well as other medical/surgical patients located there. Their telemetry responsibilities include: placing cardiac leads on patients; notifying telemetry MSAs if patients are discontinued from monitoring for any period of time; giving reports to the telemetry MSAs on all new telemetry patients; verifying rhythms and taking appropriate actions; and entering progress notes every shift, at the times of any rhythm changes, and upon discontinuation of telemetry monitoring.

Scope and Methodology

We interviewed the complainant by telephone to obtain clarification of the allegations prior to our site visit. We conducted a site visit at the system February 17–18, 2009, and interviewed system management, MSAs, supervisors, quality management, and other staff. We reviewed policies, procedures, training records, directives, electronic messages, quality management documents, and medical records. The clinical case reviews in this report are abbreviated and limited to telemetry events. System physicians addressed specific clinical issues identified through peer reviews, and RCAs were conducted for both patient deaths.

We conducted the review in accordance with *Quality Standards for Inspections* published by the President's Council on Integrity and Efficiency.

Inspection Results

Clinical Case Reviews

Patient 1

The patient was a male in his seventies with a history of a liver transplant in 1990, a kidney transplant in 2003, and a major stroke with resulting partial paralysis in late April 2008. He was transferred to the system from a private hospital the first week in May, for ongoing treatment related to his stroke. On admission to the medical unit, physicians placed the patient on telemetry to monitor for arrhythmias, specifically atrial fibrillation.[1] Physicians wrote orders to notify them if the patient's heart rate was less than 60 beats per minute. Over the next few days, the patient's heart rate ranged from 60-90 in a normal sinus rhythm or atrial fibrillation. The patient had complications related to his stroke that required blood thinning medications for treatment. On hospital day 5, a physician's order changed the telemetry monitoring parameters to notify the physician for a heart rate of 50 or lower.

On hospital day 6, a nursing note documents that the patient was in atrial flutter[2] and an EKG was completed. The physician noted that the patient had been in and out of atrial fibrillation and ordered continued telemetry monitoring.

On hospital day 7 at 7:07 a.m., the patient had a low heart rate of 49. A telemetry MSA called the medical unit to inform a RN of the low rate, but according to notes from the MSA, no one answered the telephone. At 7:08 a.m., the patient's heart rate had decreased to 24 and was still dropping. The MSA again called the medical unit and informed the medical unit MSA who answered the telephone that the patient was having bradycardia.[3] The RN assigned to care for the patient was not in the immediate area so the unit MSA went to find the RN and inform her of the change in heart rate. By 7:10 a.m. the patient's heart rate was less than 20 when the telemetry MSA called the medical unit again and spoke with an RN who answered the telephone. According to progress notes, the RN immediately sent a licensed vocational nurse (LVN) to assess the patient. Progress notes document that a cardiac arrest code was called after the LVN assessed the patient. Telemetry monitoring strips document that at 7:13 a.m. the patient's heart did not show any electrical activity and resuscitation was initiated at that time. Following

[1] Atrial fibrillation is an irregular heart rate that can cause inadequate blood circulation in the heart, resulting in pooling of blood and eventual clots that can lead to stroke.
[2] Atrial flutter is an abnormal heart rate (arrhythmia) similar to atrial fibrillation that occurs when electrical impulses take an abnormal path through the upper chambers of the heart.
[3] Bradycardia is an abnormally slow heart rate, normally defined as less than 60 beats per minute.

resuscitation efforts, a pulse and blood pressure were obtained and the patient was transferred to the MICU but was non-responsive and on mechanical ventilation. The patient had to be resuscitated a second time in the MICU. Physicians consulted with the family and the patient was removed from mechanical ventilation at 1:52 p.m. and pronounced dead at 1:57 p.m. There was no autopsy, but the cause of death was determined to be most likely from a retroperitoneal bleed.[4]

Patient 2

The patient was a male in his sixties admitted from the Emergency Department in the first week of January 2009, for shortness of breath, lower extremity swelling, recent 10 pound weight gain and reduced urine output. He had multiple medical problems that included coronary artery disease with bypass surgery in 1998, aortic stenosis, mitral regurgitation, chronic atrial fibrillation, lung disease, acute renal failure, chronic renal insufficiency, and diabetes mellitus. For the fist 4 days of hospitalization his clinical treatment focused on diuresis and electrolyte management. Both nephrology and cardiology services were consulted regarding the patient's treatment.

The patient had complained of nausea and vomiting for several days and had irregular heart rhythms that were noted on daily telemetry monitoring strips. On hospital day 7 at 8:35 p.m., the telemetry MSA noted a 6-beat run of ventricular tachycardia and called the unit RN. After speaking with the MSA, the unit RN attempted to page the medical resident. At 8:42 p.m., notes written on the telemetry monitoring strip state that the telemetry MSA contacted the medical unit RN of additional episodes of irregular wide complex rhythms. At 8:43 p.m., telemetry monitoring strips further note that the patient had continued runs of ventricular tachycardia and attempts were made to call the medical unit but no one answered the telephone. The medical unit RN documented that she spoke with the medical resident on the hallway telephone and reported the arrhythmia at 8:55 p.m. The resident told the RN he wanted to see the telemetry monitoring strips and would be on the unit shortly, after completing other patient admissions. At 9:03 p.m., a cardiac arrest code was called. Attempts to resuscitate the patient failed, and he was pronounced dead at 9:35 p.m. An autopsy was conducted and noted the cause of death as acute myocardial infarction[5] that occurred approximately 6–8 hours before death.

Issue 1: Deaths Related to Telemetry Monitoring Practices

We did not substantiate that the two patient deaths were a result of inadequate telemetry monitoring or lack of telemetry staff training. Both of these cases were reviewed through the system's peer review processes and management took appropriate actions as needed.

[4] The retroperitoneum is the space in the abdominal cavity behind the peritoneum, which is the lining of the abdominal cavity.
[5] Heart attack.

Consistent with training and per protocol, the telemetry MSA called the medical unit to report bradycardia for Patient 1. There were reports that two RNs were available to answer the dedicated telephone when it was ringing to notify staff of Patient 1's bradycardia but they waited for the unit MSA to answer the telephone. The unit MSA then had to go find the patient's RN to assess his condition. Although local policy requires that a RN assess a patient's condition, the RN sent either a LVN or nursing assistant (reports vary as to who actually went into the room) to check on the patient.

For Patient 2, the telemetry MSA called the unit per protocol to report the ventricular tachycardia and a RN answered the telephone. According to system managers, while this RN was paging the physician, a second RN was at the bedside assessing and attending to the patient. The second RN was experienced in critical care and had Advanced Cardiac Life Support (ACLS) certification.

The resident physician was questioned about the 20 minute delay to see Patient 2 after the RN called him. He stated that he remembered being told about the patient's nausea and vomiting but he did not remember being told about non-sustained ventricular tachycardia.[6]

We asked the Chief of Medicine if he was aware of any complaints from cardiology physicians regarding the quality of telemetry MSAs or nursing staff. He stated nothing had been brought to his attention but that the highest risk patients were routinely admitted to the ICUs. While our review of the deaths raised serious concerns about deficiencies in the telemetry program, it is unlikely that these deaths were the result of a delay in response to arrhythmias. Although the patients' outcomes might not have changed, delays in notification of abnormal cardiac rhythms and in physical assessment could make a difference for other patients.

Issue 2: Attempts to Notify Management of Telemetry Concerns

We substantiated that management had been informed of problems with the telemetry program. Memorandums and electronic messages, dated as early as July 2007, demonstrate that concerns were brought forward to nursing management.

Emails document that in 2007 issues were reported to nursing management related to adherence to telemetry policies and procedures and the need to update procedures. Concerns were raised regarding communication from the MSAs at the telemetry monitoring station to the unit nursing staff. It was reported that unit nursing staff did not respond in a timely manner to the dedicated telephone when telemetry MSAs called to communicate potential problems. If the RNs were not in the nurses' station where the dedicated telephone was located, there was no direct communication for the telemetry MSA to contact them. Although local policy requires the unit charge RNs to carry

[6] Ventricular tachycardia is an arrhythmia with three or more beats in succession that originate in the lower chambers of the heart. It can potentially be life-threatening.

pagers, they did not know they were supposed to and did not know where the pagers were located. In response to the July 2007 emails, management notified nurse managers via email that the unit charge RNs must carry the telemetry pager at all times, per local policy. The medical unit is generally an active and very busy unit. If RNs are caring for other patients, they are not available to answer the unit telephones or return pages. A paging system requires the RN to go to a telephone to call the telemetry MSA rather than a true immediate two-way communication system. For this reason, the email messages had recommended cell phones for the RNs but this mode of communication was not adopted.

Another concern the complainant raised was related to the actual telemetry equipment. Although there was a secondary monitor viewing station on the units, there was no ability to print out rhythm strips for the RNs to review. The telemetry MSAs could print strips and provide them to the RNs but were located at a significant distance from the units. Additional concerns were raised regarding incorrect cardiac rhythm interpretation by telemetry MSAs and the unit RNs and the need for training (discussed in Issue 3 of this report). Since there was no printing capability for rhythm strips, nursing staff were unable to perform measured interpretations and the opportunity to learn from other staff and supervisors was lost.

While nursing management acknowledged suggestions made in the 2007 messages they received from a light duty RN assigned as Telemetry/Clinical/Administrative Support, there was no clear course of action or assigned responsibility to address concerns raised in these messages. The day after the death of Patient 1, a memorandum/safety report was submitted through email to nursing management that noted concerns about communication between the centralized telemetry monitoring station and the medical unit. Nursing management followed the advice of the Chief of Human Resources Management Service and conducted a fact finding review because there was a potential "failure of duty to perform". The fact finding review was sent to the System Director on August 15, 2008. A RCA was chartered on September 11, 2008.

Issue 3: Competency, Training, and Supervision of Telemetry Program Staff

We substantiated that there were competency and training issues with MSAs and RNs assigned to telemetry. There was no formal process to assess competency until after the RCA was conducted following the death of Patient 1.

The MSAs' supervisor reported that other than an initial certification when MSAs were hired, there had been no annual skills reassessment or competency evaluation. For over 10 years, the Joint Commission (JC) has required annual competency evaluations for all employees. A Human Resources Management Service employee relations specialist, nursing staff, and administrative supervisors verified that there was no process in place for competency assessment. According to supervisors, there had been very little turn-

over in MSA staff. It had been years since the majority of them had received any formal training or competency evaluation.

After the 2007 messages to nursing management (referred to in Issue 2), the light duty Telemetry/Clinical/Administrative Support RN volunteered to perform a basic skills assessment examination for the telemetry MSAs. Nursing management approved the suggestion and instructed the RN to proceed but the examination was not mandated or formally required. The pass rate was poor for those who took it, emphasizing the need for training. System managers reported to us that the examination covered content that was not included in the initial EKG training and testing and was too advanced for the knowledge required of a telemetry technician. For this reason, a new supervisor program specialist did not support the continuation of this specific skills assessment. However, no other competency assessment was developed. Additionally, not all RNs had completed the EKG course, taken the examination, or had annual competency evaluations. We were told the charge RN on duty at the time of both deaths had never received specialized telemetry training.

After Patient 1's death, it was recommended that all telemetry staff be required to take an examination that would test their cardiac rhythm interpretation skills. The MSAs and RNs took the examination in October 2008. Both groups had very poor initial passing rates. Only 4 (14 percent) of 26 MSAs and 1 (4 percent) of 28 RNs passed the basic interpretation examination.

An emergency room RN with extensive cardiac background offered and provided training classes for MSAs in November 2008. The course was 3 days in length with a final examination given on the last day. Of the 22 MSAs listed on a final scoring sheet, 6 passed, 3 passed with contingency, 7 failed with recommendation for more intensive instruction, and 6 failed with the concern raised that they would not grasp material even with more instruction. The RN who conducted the classes wrote a memorandum to nursing management with copies sent to the Director Quality Management and Education Department, and the Patient Safety Manager voicing concerns about telemetry program needs and staff assigned to the area. Nursing management developed a strategy to provide a focused review session and re-testing.

To maintain cardiac rhythm interpretation skills, it is important to perform them on a regular basis. We evaluated the MSA staffing levels and determined that if all day shift MSAs rotated assignments equally, they could only be in the telemetry station 2.3 days per month. One light duty RN is assigned solely to telemetry, leaving very few opportunities for other day shift staff to be at the telemetry monitoring station. Rotation for evening shift MSAs would be 3 days per month and night shift MSAs 4 days per month. Some MSAs have not been at the telemetry monitoring station for months at a time. At a minimum, annual competency reviews need to be performed. Telemetry MSA staffing needs to be analyzed to determine if all MSAs should have telemetry responsibility.

There was no clinical supervision of MSAs despite the fact that they were organizationally structured under the ADPS, who is responsible for nursing care. Without some clinical supervision it would be difficult to assess telemetry competency on an ongoing basis and to identify training needs. In addition, if MSAs have clinical questions, they need to have a formal process to address those needs.

There had been a proposal to hire a master's prepared nurse to serve as a dedicated educator for the cardiac/telemetry education program. This specialty nurse would be responsible for clinical oversight of the program, developing and updating policies and procedures, assessing competencies, performing ongoing education, and developing preceptor ships. Senior managers did not approve this position and planned to reprioritize current resources to achieve the same goal. At the time of our site visit, it was unclear who was responsible for telemetry training and staff were not aware that policies had been updated. We were provided an updated local policy, dated November 4, 2008, that defines roles and responsibilities but it was not finalized.

Conclusions

We concluded that both patients had multiple medical problems that contributed to their deaths, and it would be difficult to determine whether delays in response to abnormal rhythms led to their demise. Recognition of the importance of rapid response to critical medical situations and timely intervention are well documented in recent literature and a focus of JC patient safety goals.

Temporary measures were enacted to ensure safe patient care following the RCA and after the review of competency examination results. An ICU RN has been assigned to the remote telemetry units for dedicated response to critical situations and contract telemetry technicians were utilized to provide telemetry monitoring. A project has been implemented to improve the telemetry monitoring equipment on the units. Cordless phones had been purchased for unit nursing staff but some areas of the units have poor or no reception. The VISN had been monitoring the system's processes since the first RCA results were reported to them.

Recommendations

Recommendation 1. We recommended that the VISN Director ensures that the System Director evaluates the telemetry program in its entirety.

Recommendation 2. We recommended that the VISN Director ensures that the System Director requires that all staff complete competency assessments for their specific positions and that training be provided as needed to maintain competency.

Recommendation 3. We recommended that the VISN Director ensures that the System Director requires clinical oversight of MSAs.

Comments

The VISN and System Directors concurred with the findings and recommendations of this inspection and provided acceptable improvement plans (see Appendixes A & B, pages 10─15, 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: January 8, 2010

From: Director, Rocky Mountain Network (10N19)

Subject: **Healthcare Inspection – Telemetry Monitoring Issues, VA Eastern Health Care System, Denver, Colorado**

To: Director, Chicago and Kansas City Offices of Healthcare Inspections (54CH/KC)

Attached are the responses from VA Eastern Colorado Health Care System to OIG Health Care Inspection – Telemetry Monitoring Issues. Although I have reviewed and concur with these responses, it should be noted that VA Eastern Colorado HCS had completed Root Cause Analyses with 44 action items after the two incidences. Included in those action items were the use of Critical Care RNs to monitor the land phone lines and a temporary move of the surgical telemetry patients to the SICU for 2.5 months pending the installation of the central computer station with printing capability.

(original signed by:)

Glen W. Grippen, FACHE

Appendix B

System Director Comments

Department of Veterans Affairs **Memorandum**

Date: January 6, 1010

From: Director, VA Eastern Colorado Health Care System (554/00)

Subject: **Healthcare Inspection – Telemetry Monitoring Issues, VA Eastern Health Care System, Denver, Colorado**

To: Director, Rocky Mountain Network (10N19)

I concur with the recommendations from the Healthcare Inspection conducted on February 17-18, 2009. The recommendations cover areas where we had placed great emphasis and were improving prior to the Healthcare Inspection visit.

Based on the actions taken to date by the medical center, I respectfully request that OIG Recommendations # 1 and 2 be closed.

Eastern Colorado Health Care System (ECHCS) leadership continues to monitor processes and outcomes and take action when indicated to strengthen our telemetry monitoring program.

(original signed by:)
Lynette A. Roff

Appendix B

System Director Comments

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

The following System 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 ensures that the System Director evaluates the telemetry program in its entirety.

Concur Target Completion Date: Completed

This recommendation covers an area where we had placed great emphasis and were improving prior to the Healthcare Inspection visit. After these two incidences it was determined that Critical Care RNs were to be assigned to the land phone lines. Additionally, the surgery telemetry patients were temporarily (mid- February through April 2009) housed in the SICU pending the installation of the central computer station with printing capability. Most recently, the System Director requested that the VISN 19 Patient Safety Officer review and evaluate the improvements in the telemetry program. This review and evaluation of quality and safety was conducted on October 27- 30, 2009.

To insure timely notification of abnormal rhythms, in October 2008 charge nurse' pagers were replaced with cellular telephones to be carried 24/7. Unit staff nurses were also issued cordless telephones. Managers developed and disseminated guidelines for the communication process using the dedicated cordless and cellular telephones that included documentation expectations for shift-to-shift handoffs. In addition, a process for testing the functionality of each cellular and cordless telephone at the beginning of each shift was developed and implemented. Per policy, unit nurses are expected to answer their cordless telephone within 4 rings. If the cordless telephone is not answered within 4 rings, the telemetry technician is to call the charge nurse who is expected to answer the cellular telephone within 4 rings. Managers implemented a process for continuous tracking and reporting of unit nurse and charge nurse response times for answering telemetry telephones. Compliance for answering the telephone has consistently met policy.

The current cordless and cellular telephone system will be replaced with a "state of the art" wireless communication system in FY10 Q-2. An interdisciplinary, interdepartmental task force was formed to evaluate wireless communication systems to allow real-time, two-way communication among telemetry technicians and the nurses caring for patients. The task force made a selection after evaluating systems from four vendors. The telephones have been received and the wireless communication system is being installed through-out the medical center. We anticipate activation of the system in February 2010.

The ECHCS Telemetry Policy (11-14) was revised in November 2008 to standardize and clarify communication channels. During the course of the past year, as practice changes were implemented, standard operating procedures were developed to provide guidelines for staff to follow. The current policy was posted in December 2009 (attachment A). The policy directs the telemetry technician to immediately call a "COR O" for lethal dysrhythmias. In addition to assigning responsibility and describing the procedure for telemetry monitoring, this policy includes the attachments defining the telemetry phone process, the standard operating procedure for telemetry monitoring, roles for both the telemetry technician and the RN, and the telemetry hand-off communication document.

To insure rapid response to critical medical events, a Rapid Response Team (RRT) was implemented in February 2009 following education of staff through-out the medical center. Outcomes are being monitored and have demonstrated favorable results. Subsequent to implementation, the number of inpatient "COR 0" calls decreased from 3-4 to 1 per month. There have been only 2 inpatient "COR 0" incidents in FY10 Q-1.

Central station computers with printing capabilities were purchased and the telemetry monitoring equipment was installed on the telemetry units in April 2009. The telemetry monitoring function was relocated from the remote location in MICU to the 5N acute care nursing unit. Both nursing and telemetry technicians were trained by the vendor subsequent to installation.

Recommendation 2. We recommended that the VISN Director ensures that the System Director requires that all staff complete competency assessments for their specific positions and that training be provided as needed to maintain competency.

Concur Target Completion Date: Completed

This recommendation covers an area where we had placed great emphasis and were improving prior to the Healthcare Inspection visit. All staff had competency assessed prior to working in telemetry.

The telemetry training was redesigned. In November 2008, telemetry technicians were retrained and retested. Only those MSAs who achieved a passing score were assigned to telemetry monitoring functions. An additional in-depth competency assessment, developed by the telemetry resource nurse has been completed on all of the telemetry technicians. Auditing of telemetry technician's interpretations of rhythms was initiated on April 2009. Technicians with scores below 90% on rhythm interpretation audits have not been assigned to telemetry monitoring functions and are scheduled to attend the Essentials of Critical Care Orientation (ECCO) class.

The Critical Care Nurse Educator redesigned the telemetry education program for RNs following a survey of community and VA medical centers to determine best practice for telemetry education, certification, and ongoing competency validation. The redesigned program, based on the ECCO was implemented in February 2009. Almost all of the RNs have completed the course and are ECCO certified. Classes will now be provided quarterly.

The ECHCS ACLS/BLS policy was revised in May 2009 to require that RNs on the telemetry units be ACLS certified, with non-certified nurses expected to attain certification within one year of hire. As of December 2009, most of the RNs on the telemetry units are ACLS certified. The remaining RNs are compliant with policy and will achieve ACLS certification within one year of hire date.

The Critical Care Nurse Educator designed an eight-hour preceptorship for ECCO certified RNs. This preceptorship was implemented in November 2009 and consists of 1:1 training by a qualified telemetry technician, to include monitoring of and performing rhythm interpretations on telemetry patients, accurate electrode placement, and operation of the monitoring equipment. The Educator has also developed a process for ongoing monitoring and verification of competency to include technical, critical thinking, and interpersonal skills. The annual competency validation process is offered quarterly.

Recommendation 3. We recommended that the VISN Director ensures that the System Director requires clinical oversight of MSAs.

Concur Target Completion Date: 03/31/10

The ACNS for Inpatient Care is currently responsible for the clinical oversight of telemetry technicians. Responsibilities include insuring that the telemetry technicians adhere to the telemetry policy and maintain competency in telemetry skills, providing clinical resource assistance to the telemetry technicians, reviewing competency/proficiency data and taking action as appropriate, and reporting results of initial, quarterly, and annual competency/proficiency data to the Patient Safety Committee.

In addition, nursing management is working with HRMS to **c**reate 12.0 FTEE dedicated Health Technician/Telemetry Technician positions**,** classify those positions and recruit for a RN Telemetry Clinical Manager, who will have supervisory responsibility and accountability for performance management. The Health Technicians will be assigned to clinical duties only, to include telemetry monitoring functions on the acute medicine (5N) and acute surgical (4S) units.

OIG Contact and Staff Acknowledgments

OIG Contact	Verena Briley-Hudson, MN, RN Director, Chicago and Kansas City Offices of Healthcare Inspections (708) 202-2672
Acknowledgments	Dorothy Duncan, BSN, MHA, RN, CPHQ Michael Shepherd, MD Judy Brown

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