



Department of Veterans Affairs Office of Inspector General

Healthcare Inspection

Quality of Care in the Surgical Intensive Care Unit South Texas Veterans Health Care System San Antonio, Texas

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Executive Summary

The Office of Inspector General conducted an inspection to review allegations regarding poor quality of care in the surgical intensive care unit (SICU) at the South Texas Veterans Health Care System (the system), San Antonio, TX.

We substantiated the allegation that the general surgery did not follow consultative advice concerning fluid management for the patient cases reviewed for this inspection. However, while we disagreed with the fluid management in the care of three patients, we found that it did not directly result in the patient deaths. Our review was complicated by general surgery's failure to adequately document patient care. Multiple staff members indicated that they had concerns regarding the care these patients received in the SICU. However, deficiencies in the management and organizational structure, patient advocacy program, and administrative nursing guidance prevented these concerns from being adequately addressed in a systematic fashion. We found that the quality management program did not monitor clinical outcomes or documentation of resident supervision in the SICU. The peer review program did not function in compliance with applicable directives, impairing the ability to identify opportunities for improvement in clinical care.

The system sought to correct a number of these concerns. They obtained outside consultative advice from a team which made many recommendations for process improvements and clinical care. We were provided with documentation of the system's exceptional compliance with these recommendations. In recognition of the considerable improvements implemented by the system, we limited our recommendations to management that they take actions to:

- Define SICU leadership structure, responsibilities, authority, and chain of command, including a systematic reporting process for quality of care concerns.
- Ensure the SICU QM programs comply with Veterans Health Administration (VHA) Handbook 1003.4 and VHA Handbook 1907.01.
- Establish administrative nursing guidance in the SICU as reflected by current policies, procedures, training, and staff verbalization of practice expectations.
- Provide consistent leadership oversight of SICU performance improvement and QM programs.
- Monitor SICU medical records for compliance with resident supervision documentation requirements.
- Comply with VHA Directive 2004-054 and system Policy Memorandum 11-04-35 for peer review.



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

TO: Director, Veterans Integrated Service Network (10N17)

SUBJECT: Healthcare Inspection – Quality of Care in the Surgical Intensive Care Unit, South Texas Veterans Health Care System, San Antonio, TX

Purpose

The VA Office of Inspector General (OIG), Office of Healthcare Inspections (OHI) conducted an inspection to determine the validity of allegations regarding poor quality of care in the surgical intensive care unit (SICU) at the South Texas Veterans Health Care System (the system), a member of Veterans Integrated Service Network (VISN) 17.

Background

The system is a 268-bed facility providing primary, secondary, and tertiary health care in medicine, surgery, psychiatry, and rehabilitation medicine. The system is affiliated with the University of Texas Health Sciences Center at San Antonio. The SICU, under the direction of a team of critical care intensivists (Anesthesia and General Surgery Services), has 12 individual rooms, including two negative airflow rooms. A team of registered nurses (RN), aided by nursing assistants and a unit-based respiratory therapist (RT), provide care. The SICU provides services to patients who have undergone major surgical interventions by General Surgery Service (referred to here as general surgery) and nine surgical subspecialties. Patients, usually older than 55, typically have multiple pre-existing co-morbidities. The average SICU bed occupancy rate is between 75 percent and 85 percent with an average length of stay of 9 days.

The OIG Hotline Division received two separate but related complaints alleging poor quality of care in the SICU at the system. The first complainant made allegations concerning the care of his father (Patient 1). Specifically, the complainant alleged:

- General surgery ordered an inappropriate diet for Patient 1 which contributed to aspiration¹ and need for mechanical ventilation.
- General surgery inappropriately managed Patient 1's mechanical ventilation.

¹ Entry of material into the airway.

- General surgery failed to follow consultative advice regarding Patient 1's fluid management and continued to give the patient fluid inappropriately, resulting in volume overload which caused the patient's death.

The second complainant alleged nine patients received poor care while in the SICU. The complainant specifically alleged:

- Multiple patients received inadequate treatment in the SICU resulting in death.
- Three surgical cases were cancelled after induction of anesthesia because indications for surgery were not present or because the wrong instruments were sent to the Operating Room (OR).
- One patient in the pre-operative area was found to have an arterial saturation of 65 percent after the surgeon wrote he had seen and examined the patient that morning, suggesting the surgeon had not, in fact, seen the patient.
- The surgical intensive care nursing staff repeatedly expressed quality of care and resident supervision concerns.

Both complainants alleged overall poor quality of care in the SICU, which is addressed in the last section of the report.

Scope and Methodology

OHI inspectors conducted a total of three site visits to the facility between July 1, 2006, and June 1, 2007. OHI inspectors conducted interviews with the complainants, management, nursing staff, and physician staff involved in these cases. We reviewed patient medical records, Veterans Health Administration (VHA) directives, local policies, quality management data, and contract agreements. We obtained the opinion of a surgical intensivist regarding the quality of care received by patients identified by the complainant. We also reviewed documents pertaining to administrative oversight, related to mechanisms for reporting quality of care concerns, and resident supervision. Specifically, we evaluated quality management programs by reviewing VHA's National Surgical Quality Improvement Program (NSQIP) data for general surgery at the system; quality monitors for SICU, general surgery, and anesthesia; and by determining if peer review programs were managed in compliance with applicable VHA and local policies.

We notified the facility of the opinion of our expert. The facility, in turn, engaged an outside consultative team to evaluate SICU management and care. We conducted another site visit following the outside consultative review to evaluate further the quality of care and management initiatives undertaken by the facility, including changes in SICU leadership and implementation of standardized protocols for certain aspects of Intensive Care Unit (ICU) patient care management.

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

Results

Issue 1: Medical Care

The first complainant alleged general surgery ordered an inappropriate diet, which contributed to aspiration and the need for mechanical ventilation. The complainant further alleged general surgery failed to follow consultative advice regarding Patient 1's fluid management and continued to give the patient fluid inappropriately, resulting in volume overload causing the patient's death. The surgical staff caring for these patients had critical care training.

Case Review of Patient 1

Patient 1 was an 81-year-old male veteran of World War II initially admitted to the system for a low anterior colonic resection of a rectal cancer. Patient 1 received treatment from the system for a variety of health problems, including hypertension, diabetes mellitus, post-traumatic stress disorder, seasonal allergies, hearing loss, gastroesophageal reflux disease, and gastrointestinal bleeding. Initially, he did well following resection of his rectal cancer. However, on postoperative day (POD) 2, general surgery ordered a clear liquid diet that could be advanced as tolerated. Nursing notes reflect that the patient received a meal at 6:00 p.m. that included a "small amount of meat." Thereafter, Patient 1 vomited a small amount and his oxygen saturation declined. The surgical intern assessed the patient, ordering an electrocardiogram, laboratory and arterial blood gas test, and a chest x-ray. He (the intern) discussed the case with the 3rd year surgical resident on call and diagnosed aspiration pneumonitis. This is a type of pneumonia which results when gastric contents inadvertently enter a patient's lungs. The surgical intern placed a nasogastric tube to drain the patient's stomach contents.

By the following evening (POD 3), Patient 1's respirations were labored, requiring intubation and mechanical ventilation. Initially, general surgery succeeded in weaning the patient to an FiO_2 ² of 50 percent. The patient remained febrile and subsequently required increasing FiO_2 . The surgical intern's notes record attempts at a different ventilatory mode on POD 6 which failed, requiring a return to the previous settings with increasing FiO_2 requirements. General surgery placed a Swan Ganz (SG) catheter³ on POD 6. The initial pulmonary capillary wedge pressure (PCWP)⁴ was normal (normal is 10–14).

² Fraction of inspired oxygen, or the percentage of oxygen in the air the patient breathes.

³ A catheter that goes into a vein and is threaded into the heart. Readings from the catheter are used to assess cardiac function and volume status.

⁴ PCWP is a measure of cardiovascular system fluid status.

From POD 6 through POD 9, nursing notes record a total intake of 23.083 liters (L) and total output of 5.904L for a net fluid intake of approximately 17.2L. By POD 7, nursing notes commented on high peak airway pressures on the ventilator as well as low oxygen saturations. They further describe 2–3+ pitting edema. In contrast to nursing notes, the surgical intern’s note for POD 8 states no edema and good urine output. The patient’s blood pressure required support by intravenous (IV) medications (vasopressin) and PCWPs ranged from 17–28. The patient’s serum blood urea nitrogen (BUN) and creatinine increased from a baseline of 8 milligrams/deciliter (mg/dL) and 0.7 mg/dL prior to surgery to 34 (normal 6–23) and 1.1 on POD 9. The patient received a bolus of 1L of fluid over 2 hours; an additional L of fluid over 8 hours, and Plasmalyte and albumin boluses all in addition to IV fluids contained in routine drips for a total of 9.467L of fluid in 24 hours on POD 8. No diuretics were ordered.

BUN and creatinine continued to trend upward. The patient developed a pleural effusion (fluid collection) in his left lung. General surgery placed a chest tube, and the patient’s condition slightly improved, with notes in the medical record describing good urine output, but continued respiratory difficulties. A nursing note from POD 8 described “+3 generalized edema with serous weeping from isolated areas.” Notes further indicate that the patient’s left hand was “increasingly purple.” The patient previously had an arterial line placed in the left radial artery.

On POD 9, the patient’s blood pressure improved and vasopressin was discontinued. On POD 10, the surgical intern described improvement in blood pressure (now 120s/50s), good urine output, and improved oxygenation on the ventilator. He ordered metoprolol for sinus tachycardia with heart rates in the 90s–100s and to use Plasmalyte to maintain total IV fluid intake at 150 milliliter per hour (mL/hr). PCWPs ranged from 16–28 on that day. Second and third digits of the left hand were described as dusky blue and cool.

General surgery removed the SG catheter on POD 11 with the last PCWPs recorded ranging from 11–16. General surgery performed a bronchoscopy which had no significant findings. The patient’s weight was now 254.1 pounds compared to 204.5 pounds on POD 4.

The patient’s arterial blood gases demonstrated a respiratory acidosis with a pH⁵ of less than 7.3⁶ and carbon dioxide levels of 68 to 86 on 11 different blood gases drawn during a 24-hour period. The next day, the patient was placed on pressure controlled ventilation to reduce peak airway pressures. Seven arterial blood gases drawn that day continued to demonstrate a pH of less than 7.3 with carbon dioxide levels of 76 to 85. General surgery treated this respiratory acidosis with an IV bicarbonate solution.

⁵ Power of hydrogen.

⁶ When blood obtained from an artery has a low pH, it means there is too much acid in the blood. This can cause many problems, including cardiac arrhythmias. In this case, the low pH resulted from too much carbon dioxide in the blood.

The patient developed atrial fibrillation with rapid ventricular response. He was cardioverted⁷ twice. His serum creatinine increased to 1.8. His oxygenation status deteriorated, requiring 100 percent FiO₂ on the ventilator. Nursing notes from POD 13 describe 4+ edema with oozing serous drainage from both arms. Notes from PODs 13 and 14 reveal continued episodes of atrial fibrillation requiring cardioversion with an increase in BUN to 58 and serum creatinine to 2.0.

On PODs 13 and 14, the Nephrology, Pulmonary, and Cardiology Services evaluated the patient, and all suggested the patient was volume overloaded. Nephrology noted good urine output but significant volume overload, recommending Lasix[®]. In addition, they did not believe the IV bicarbonate would be helpful for the patient's respiratory acidosis. Pulmonary Service evaluated the patient on POD 14, stating that "[a] great portion of the pt's hypoxia is most likely due to his volume status." They recommended reinsertion of the SG catheter. Cardiology Service noted a central venous pressure (CVP) of 26, an approximate weight gain of 100 pounds since admission, and indicated that one possible cause of the patient's atrial fibrillation could be "volume overload causing atrial stretch." Cardiology Service also recommended placement of a SG catheter.

General surgery placed a SG catheter the following day (POD 15), obtaining an initial PCWP of 24. The surgical intern's note stated that the patient's high positive end-expiratory pressure (PEEP) on the ventilator was contributing to the increased PCWP. The note states that general surgery decided to give fluid prior to any diuretic to determine if the cardiac output went up. General surgery believed that if the cardiac output increased with additional fluid, this indicated the patient needed additional fluid rather than diuresis. The patient's BUN and creatinine were 71 and 2.4, respectively. The chart records an initial cardiac output of 11.4, CVP of 20, PCWP of 24, and systemic vascular resistance (SVR) of 351. These numbers indicate a high cardiac output state, elevated intravascular pressures, and low SVR. After giving the patient additional fluid, the patient's cardiac output, CVP, and PCWP all increased while the SVR further declined to 285. The patient's PCWP was now 28. Despite continued administration of fluid, the patient's BUN and creatinine increased to 80 and 2.7.

On the following day, the patient required cardioversion twice. Nursing notes include the following statement:

Family very upset over pt's management. Aware of consulted teams direction to diurese pt, and gen surgery's decline to do so. Renal MD . . . quite frank in her discussion this am with [cardiologist] concerning pt's fluid overload, fibrillation caused by irritable L atrium d/t same.

⁷ Cardioversion is a brief procedure where an electrical shock is delivered to the heart to convert an abnormal heart rhythm back to a normal rhythm.

At the family's request, the Chief of Staff transferred the patient to the care of the Medical Intensive Care Unit (MICU).

In the MICU, the patient received aggressive diuresis, which his blood pressure initially tolerated. The MICU team consulted the Vascular Surgery Service regarding the patient's fingers which remained cyanotic. Suggesting that this could be the result of clot formation following arterial line placement, the Vascular Surgery Service also recommended a transesophageal echocardiogram (TEE) to exclude an embolic event. The TEE revealed normal cardiac function, mild aortic stenosis with a valve area of 1.6-1.9 cm², and a large pleural effusion but no vegetations. The Vascular Surgery Service recommended consultation with the Orthopedic Service for possible amputation. The Orthopedic Service determined that no intervention was warranted at that time, believing that the fingers were gangrenous and could auto-amputate. No changes in antibiotics were recommended.

Five days after transfer to the MICU, the patient's white blood cell count increased and he became hypotensive. The MICU team ordered multiple cultures and restarted antibiotics. The patient developed increased ventilatory requirements, worsening anemia, renal failure, and hypotension. The family agreed to a Do Not Resuscitate order in light of the patient's deteriorating status, and elected not to proceed with dialysis. Patient 1 received blood transfusions and continued diuresis. Fifteen days after the patient's transfer to the MICU, the family requested that care be withdrawn. The patient expired on the same day from ventilator-associated pneumonia, Adult Respiratory Distress Syndrome (ARDS),⁸ multi-organ system failure, and sepsis.

Alleged Inappropriate Diet

We did not substantiate the patient received an inappropriate diet. The patient received a full nutritional assessment with recommendations from the dietician to advance diet as tolerated, and the order was written. The patient initially tolerated a clear liquid breakfast, which was then advanced to a diabetic diet for lunch without difficulty. Family members stated a meal of fajitas was offered to the patient for the following dinner. The patient ate 10 percent of dinner on day 2 and vomited later that evening. The record does not reflect any clear contraindication to advancing the patient's diet during this time period.

Alleged Poor Ventilatory Management

We could neither substantiate nor refute the allegation that the patient's ventilatory management was inadequate. The lack of clear standards in this area as well as the poor documentation practices regarding ventilatory changes by the surgical staff prevented us from reaching a definitive finding on the allegation.

⁸ A disorder that occurs when physiological stresses cause lung injury and difficulty breathing.

The system obtained an outside consultative review of the ICU patient care team structure and authority and peer review of the deaths in the SICU involving two attending physicians, one of them the attending physician for Patient 1. Findings from the outside consultative review include deficiencies in documentation of ventilatory care, noting “few orders for care changes such as new ventilatory settings, deterioration in patient condition or change in level of care.” Failure to adequately document ventilatory changes impaired our ability to reach a determination regarding the adequacy of this aspect of the patient’s care.

The above described poor documentation notwithstanding, we do have concerns with the ventilatory management as documented. Multiple arterial blood gases performed on the patient demonstrated that the patient was acidotic with elevated carbon dioxide levels for prolonged periods of time. Acidosis may contribute to numerous health problems, including cardiac arrhythmias. We also note that general surgery continued the patient on high levels of FiO₂ for prolonged periods without Pulmonary Service consultation. It should be noted that the PO₂ was also low. An FiO₂ of 60 percent or greater for more than 72 hours is associated with damage by free radicals to lung tissues, resulting in fibrosis and further difficulties in oxygenation. The patient was on an FiO₂ of 60 percent or more for 9 of 15 days prior to his transfer to the MICU. Clinical notes did not reflect a plan for ventilatory management during this time. Pulmonary Service consultation was not obtained until the family requested it, despite documentation of increased difficulties in ventilating the patient and markedly abnormal blood gases as described in the case review. When general surgery consulted Pulmonary Service, they did not follow their recommendations. We therefore disagreed with the surgical team’s ventilatory management in this case.

Alleged Inappropriate Fluid Management

We also disagreed with the patient’s fluid management and substantiated the allegation that general surgery did not follow consultative recommendations regarding fluid management. We did not substantiate the allegation this caused the patient’s death.

The clinical notes reveal this patient gained 89 pounds during his stay in the SICU. The PCWP readings from the SG catheter confirmed increased intravascular volume. While the patient’s BUN and creatinine increased during this period, changes that can occur with low volume states, we concluded that the failure of the patient’s BUN and creatinine to improve despite continued fluid administration is more consistent with acute tubular necrosis (ATN). ATN is a disorder of the kidneys seen in association with sepsis and multi-organ system failure. Giving additional fluid to patients who have ATN will not improve renal function; rather, the impaired glomerular filtration rate of the kidneys associated with ATN will serve only to reduce the patient’s ability to excrete excess fluid.

The complainant alleged general surgery failed to follow the advice of consultants regarding fluid management. We substantiated this allegation. Consults from

Cardiology, Pulmonary, and Nephrology Services suggested the patient was volume overloaded. All services recommended diuresis. Despite elevated PCWP readings and the opinion of multiple consultants, general surgery continued to give fluid. We interviewed the attending surgeon, who suggested that the patient's 89 pound weight gain and elevated PCWP readings were the result of high levels of PEEP used in mechanical ventilation. The PCWP readings and the weight gain, together with the opinion of multiple physicians who evaluated the patient clinically, suggested the patient was volume overloaded. We therefore substantiated that the attending physician did not follow consultative advice regarding fluid management.

However, we did not substantiate that inappropriate fluid management resulted in the patient's death. The Chief of Staff removed this patient from the care of general surgery at the request of the family. In the MICU, the patient received diuretics and appropriate fluid management. The patient ultimately succumbed 2 weeks later.

Issue 2: Care in the SICU

The second complainant alleged generally poor medical care was provided by physicians in the SICU, listing a total of nine patients. We reviewed two of these cases.

Case Review of Patient 2

Patient 2 presented to the system Emergency Room with the complaint of painless rectal bleeding. The patient was admitted to MICU for fluid resuscitation. The Gastroenterology Service subsequently performed a colonoscopy that did not identify the bleeding source. They recommended a nuclear medicine tagged red blood cell study. This study demonstrated bleeding in the splenic flexure of the colon. By hospital day 3, Patient 2 received 6 units of packed red blood cells. The Interventional Radiology Service was unable to localize and embolize the bleeding vessel. General surgery evaluated the patient and performed an exploratory laparotomy with heat ablation of gastric erosions. On POD 1, general surgery could not wean the patient from the ventilator. By POD 2, notes reflected concern that the patient was developing ARDS. His ventilatory settings included a tidal volume of 900 mL. However, notes reflected slight improvement in the patient's condition beginning on POD 3 and continuing until POD 7. During this time period, Patient 2 became hypertensive and tachycardic when stimulated. General surgery gave 20 mg of Lasix[®] on POD 5. On POD 6, the patient's temperature increased to 101.4 degrees Fahrenheit (° F). The surgical intern wrote: "Pt with rising temperatures, however not considered febrile yet." A dietician saw the patient and began enteral feeding.

On POD 8, general surgery described increased drainage from the patient's abdominal incision and that the fascia was dehiscid.⁹ Patient 2's temperature was now 102.5° F, and

⁹ Separation of the layers of a surgical wound.

cultures were sent for testing. General surgery took the patient back to the operating room for wound exploration and an abdominal wash-out. By POD 11, Patient 2 developed cellulitis of the left arm. General surgery continued current antibiotics, which included vancomycin and Zosyn[®]. Patient 2 routinely became agitated with minimal stimulus requiring large amounts of sedation. Over the next few days, the patient's ventilatory status deteriorated. On POD 15, arterial blood gases demonstrated a rising carbon dioxide level. Over the next 2 days, carbon dioxide levels reached 138 (about three times normal) with a pH of 7. Over the next 36 hours, the patient's arterial blood gases were drawn 15 times. The pH remained less than 7.3. One blood gas on the following day revealed a pH of 7.34. The next 41 blood gases drawn over a period of 5 days revealed a pH of less than 7.3 with 29 of these readings below 7.2. This appeared to be primarily the result of a respiratory acidosis. General surgery treated this by administering bicarbonate IV to lower acid. Because of increased peak airway pressures, they also placed the patient in a pressure controlled mode of ventilation which resulted in further elevations of his carbon dioxide levels. From POD 18 through the date of the patient's eventual demise on POD 50, the patient remained on an FiO₂ of greater than or equal to 60 percent.

The patient's fluid management throughout this time period also was an issue. From POD 13 to POD 17, the patient received a total of 28.94L of fluid. His output for the same period totaled 12.19L for a net positive fluid balance of 16.75L in 5 days. Despite large amounts of fluid, the patient's BUN and creatinine increased from 10 and 1.0 on POD 13 to 38 and 2.1 on POD 19. Chest x-rays worsened over the same time period. On the ventilator, the patient developed rising partial pressure of carbon dioxide levels to 103.6 with a pH of 7.093. Notes state that the patient tolerated the hypercarbia and that it was being compensated for with a bicarbonate drip running at 200 cubic centimeters per hour (cc/hr). On POD 19, SG catheter readings demonstrated a PCWP of 24–27. The patient received one dose of Lasix[®] 80 mg without an appropriate increase in urine output.

On POD 19, general surgery notes record that the patient gained approximately 50 pounds since admission, and the general surgery team administered Lasix[®] with some subsequent increase in urine output. The patient remained ventilated, requiring high levels of oxygen. The general surgery team believed the patient's swelling resulted from fluid leaking in the tissues and that there actually was not adequate fluid in the patient's blood vessels. The patient's BUN was 38 with a creatinine of 2.1. PCWPs obtained over a 4 day period, however, ranged from 24 to 35. The patient's kidney function deteriorated, and general surgery consulted Nephrology Service. Nephrology Service noted the patient's weight now was approximately 100 pounds higher than his admission weight, and his net fluid intake ranged from 7 to 9 L daily.

Nephrology Service recommended diuresis and a Pulmonary Service consultation to assist with ventilation. They noted 4+ pitting edema. After initiating diuretics, Nephrology Service noted a good response. A Nephrology Service fellow wrote:

. . . please do not give this pt. any more fluid challenges. . . if intravascular depletion is an issue—which high blood pressures point against (even off vasopressin), giving more fluid will cause more fluid to leak out into extravascular compartment until underlying problem (hypproteinemia [sic], sepsis) is corrected, thus exacerbating the problem. The key is aggressive diuresis while minimizing as much as possible pt.'s iv intake.

Nephrology Service believed the patient's renal dysfunction resulted from ATN, not volume depletion.

Over the next 2 days, the patient maintained a net negative fluid balance. However, on POD 22, general surgery discontinued diuretics. Nephrology Service wrote:

General surgery team has decided to discontinue both diuretics. We still strongly recommend continuing to aggressively diurese this pt. as long as his blood pressures still tolerate and he continues to maintain good urine outpt. As these recommendations are not being followed, we will sign off on care of the pt.

The patient also experienced increased ventilatory difficulties with nursing staff noting peak airway pressures in the upper 50s. On POD 29, general surgery gave a fluid bolus for low urine output. CVP readings at this time ranged from 13–28. Notes also describe the presence of a cellulitis on the inner thigh.

On POD 37, the medical record reflected that a Pulmonary Service consultation was ordered at the family's request. This occurred after the patient had been on an FiO₂ of greater than or equal to 60 percent for 19 consecutive days. General surgery inserted a SG catheter with an initial PCWP of 25. On the same day, general surgery ordered a 1 L bolus of normal saline for declining urine output while nursing notes continue to describe 4+ pitting edema. At this time, the patient's blood pressure was low. Despite the fluid bolus, the patient's BUN and creatinine continued to increase, reaching 78 and 2.8 on POD 39.

Pulmonary Service recommended dialysis to remove volume and ventilator adjustments, noting multi-organ system failure and septic shock. Pulmonary Service noted the patient had received more than 40L of net fluid in the past few weeks. General surgery performed bronchoscopy on POD 39, which was described as generally normal. On POD 40, a SG catheter was placed and PCWP readings were obtained which ranged from 43–56 on ICU flow sheets. Nephrology Service was consulted again. They diagnosed worsening oliguric acute renal failure secondary to ATN. Multiple discussions with the family occurred regarding the patient's poor prognosis, with requests for a Do Not

Resuscitate order. Nephrology Service initiated dialysis in accordance with the wishes of the patient's family. In addition, Nephrology noted the patient was receiving more than 200 cc/hr of fluid and requested minimization of fluid intake. Finally, Nephrology commented on the patient's respiratory acidosis as follows:

. . . respirt acidosis referactory [sic] to hyperventilation likely secondary to lack of sufficient viable alveolar tissue from O₂ toxicity . . .

Neurology Service performed an electroencephalogram (EEG), interpreted as consistent with a severe, diffuse encephalopathy. By POD 45, dialysis removed approximately 40 pounds of fluid. While his fluid status improved, the patient's overall condition did not improve. Rather, on POD 49, the patient developed hypotension and once again required medications for blood pressure support.

On POD 50, the family agreed to a Do Not Resuscitate Order and to comfort care measures. By this time, the patient's oxygen saturation on an FiO₂ of 100 percent was only 83 percent. The patient expired as a result of a cardiac arrhythmia later the same day.

Case Review of Patient 3

General surgery initially admitted this 62-year-old female to rejoin her colon to her rectum following a rectal injury that resulted in having her colon terminate into a bag attached to her abdominal wall.¹⁰ The day after her colon repair, the patient developed a low blood pressure with an increase in heart rate. Her creatinine increased to 2.0. Surgery administered a 1 L bolus of normal saline. Diagnosed with hemoperitoneum (blood inside the abdominal wall), surgery re-explored her abdomen, which revealed an oozing mesenteric blood vessel.

The patient's blood work revealed worsening indices of renal failure despite the transfusion of 4 units of blood, 1 L bolus of fluid, and sustained fluid replacement of 150 cc/hr. On POD 3, general surgery noted bilateral pleural effusions and consulted Nephrology Service. Nephrology Service diagnosed ATN and urged general surgery to match fluid intake with output. They administered a diuretic with a good rise in urine output noted. Despite this advice, Nephrology Service noted the next day that the patient received more than 6 L of fluid over 24 hours. Nephrology warned general surgery of the risk for pulmonary edema. Later the same day, the patient was reintubated for respiratory distress.

General surgery performed tests to exclude a clot to Patient 3's lung that may have been the cause of her respiratory distress. These tests were negative. Chest x-rays revealed fluid in the lungs. The patient remained hypertensive. Nephrology again recommended

¹⁰ This is known as a colostomy takedown.

decreasing the patient's fluid intake. Surgical notes reference a troponin of .7, thought to represent demand ischemia. Within 48 hours, the patient was extubated, but nephrology continued to note a positive fluid balance. By POD 6, the patient's creatinine rose to 4.6, but her respiratory status improved allowing extubation. Three days after extubation, the patient was re-intubated. However, on this occasion, fever, hypotension, and tachycardia suggested sepsis. A catheter placed for IV access showed CVPs as high as 30. Fluid accumulations were drained from the lungs. Re-exploration of the patient's abdomen revealed a leak at the colostomy takedown site which was repaired.

On POD 8, Nephrology noted that the patient was "in volume excess. Recommend reducing volume intake and continuation of lasix . . ." On POD 10, Nephrology again notes that the patient appeared volume overloaded and recommended that surgery not continue to give fluids for hypotension. Nephrology noted that the patient's renal function and urine output were declining, but indicated that this was the result of worsening ATN consistent with sepsis rather than hypovolemia. An echocardiogram revealed normal left ventricular systolic function.

Neurology Service was asked to evaluate Patient 3 for seizure activity. Surgical notes do not describe this activity. Neurology evaluated the patient, diagnosed her with delirium but indicated that a full neurological assessment could not be done because the patient was intubated and sedated. Because of an increased white blood cell count and worsening sepsis, general surgery ordered a computerized tomography of the abdomen and pelvis. This revealed an anastomotic leak. The patient returned to the OR for an exploratory laparotomy. Following this surgery, the patient developed disseminated intravascular coagulopathy. Despite her deteriorating status, Nephrology Service noted improvement in her renal function and an adequate urine output. Nephrology Service continued to note a positive fluid balance. Neurology Service indicated that an EEG to evaluate seizure activity was not warranted at that time and did not believe epilepsy was a likely diagnosis.

On POD 13, Nephrology noted that Patient 3's renal status continued to improve despite multi-organ system failure. The patient was successfully weaned off all IV medications for blood pressure support. Nephrology continued to recommend reducing volume infusions and Lasix[®] because of volume overload. Notes from general surgery continued to include in the plan fluid resuscitation as needed. During this period, the patient returned to the OR on multiple occasions for repeat abdominal wash-outs. On POD 14, Nephrology again recommended stopping all supplemental fluids except total parenteral nutrition and giving Lasix[®]. They believed this would assist with her blood pressure, which was now high.

The patient returned for another abdominal wash-out and was noted to have bleeding and abscess on the splenic capsule. The patient's spleen was removed. By day 18, nephrology described the patient as being "in vast volume excess" with diffuse swelling and an 89 pound weight gain from admission. Nursing notes indicate the patient

continued to receive .5 normal saline at a rate of 150 cc/hr in addition to all other maintenance drips. General surgery believed she had significant fluid losses from her open abdomen and continued to give fluid. By POD 20, Nephrology noted that the patient was “volume overloaded with anasarca and pleural effusions.” They signed off. General surgery continued with fluid boluses. By POD 23, the patient’s kidney function declined again. Notes describe 4+ pitting edema. Nephrology saw the patient again and initiated hemodialysis for control of volume and acidosis. Despite these interventions, Patient 3’s condition deteriorated. She required IV medications for blood pressure support. Her liver functions deteriorated and she developed ectopy and difficulties maintaining her blood pressure on dialysis. On POD 26, Patient 3’s family voluntarily withdrew life support, and the patient expired.

Summary of Patients 2 and 3

In evaluating the care of Patients 2 and 3, we disagreed with the surgical fluid management for these patients. However, we did not substantiate this resulted in patient deaths.

As with Patient 1, Patients 2 and 3 both received large amounts of fluid. The fluid administration occurred despite the opinion of multiple consultants concerning the patients’ volume status, as well as PCWP readings suggesting that the patients were volume overloaded. While both patients experienced rising serum BUN and creatinine levels, we concluded that these were because of ATN rather than volume depletion. In addition, difficulties with ventilating Patient 2 were noted by Nephrology Service, which recommended consultation with Pulmonary Service. This recommendation was not followed until the family requested the consultation some days later.

The care of Patients 2 and 3, when taken together with the care of Patient 1, may indicate a potential pattern of excessive fluid administration in SICU patients. This could be related to a belief that rising BUN and creatinine levels reflected volume depletion rather than ATN. Both patients gained a large amount of weight, with consultant physicians describing a clinical state of volume overload. This was confirmed by readings from catheters in the blood vessels. In both cases above, fluid status may have further complicated the patients’ respiratory status. Both patients died of sepsis and multi-organ system failure, however, not volume overload.

Surgical Cancellations

We substantiated the allegation that three surgical cases were cancelled after induction of anesthesia during the week of May 15–19, 2006. In one case, the wrong surgical instruments (short trocars) were sent to the OR, and the other two cases inappropriate preoperative care was given. Four surgeries total were cancelled for the month of May. This comprised approximately 3 percent of the total surgeries in May and is within the normal expectation for a system of this size.

Preoperative Examination

We did not substantiate or refute this allegation because we could not identify the specific case involved. The complainant alleged the surgeon wrote a note on the morning of surgery indicating he had seen and examined the patient, and there was no change to the surgical plan. Anesthesiology Service was said to have been called when the patient was found to have a low oxygen level of 65 percent. No patient identifiers or dates were included in the complaint referencing this case. The complainant, when interviewed, could not supply any additional information to assist in the identification of the patient.

Quality of Care and Resident Supervision

We substantiated no action was taken by physicians, nursing management, patient advocacy, or quality management to carry nursing staff concerns to an appropriate administrative forum for review (R.11.Consultation):¹¹

If a nurse or any other professional has any reason to doubt or question the care provided to any patient and feels that appropriate consultation is needed and has not been obtained, he/she shall direct said question to the attending Medical Staff member. If after this, he/she still feels that the questions have not been resolved, it shall be called to the attention of his/her supervisor for resolution.

We found 14 of 16 members of the SICU nursing staff who cared for the patients in this review questioned general surgery residents and faculty concerning the amount of IV fluid volume ordered. The staff nurses requested anesthesiology staff to review the cases and intercede on behalf of the patients. Due to an agreement between general surgery and anesthesia, general surgery managed their own SICU patients. Anesthesia staff managed other SICU patients, but they were limited to offering general surgery staff unsolicited advice based on their observations of the patients. Eighty-seven percent of the nursing staff interviewed was troubled by the IV fluid orders they were given in regard to the patients in this review. One nurse stated a request was made to the nurse manager that an ethics consult be initiated to address patient care and faculty supervision concerns. While we were provided no evidence that the system acted on this request, we were told that a consult was initiated but not completed prior to the patient being moved at the family's request. Repeatedly, nurses stated they felt patients cared for by general surgery staff did not receive clinically appropriate care, and these concerns were stated to nursing management and physician staff.

¹¹ Medical Staff By-Laws, Rules, and Regulations FY 2005 and system Bylaws and Rules of the Medical Staff FY 2006.

We substantiated documentation of resident supervision does not meet the standards of VHA Handbook 1400.1, *Resident Supervision*, which delineates requirements in this area. An extensive number of notes were not signed by the required faculty member to include history and physicals, operative reports, and procedure notes. In addition, the system requires a substantive progress note by faculty twice a week while in SICU (Section R.12.7, Medical Records).¹² In the cases reviewed, we found faculty notes for general surgery were not completed twice weekly in compliance with this requirement.¹³

Issue 3: Overall Quality of Care in the SICU

To assess overall quality of care delivered in the SICU, we examined data pertaining to the system's quality monitors, peer review program, internal organization and management structure, patient advocacy program, medical record documentation, and nursing practice guidance. We identified issues and opportunities for improvement in all of these areas.

Quality Monitors

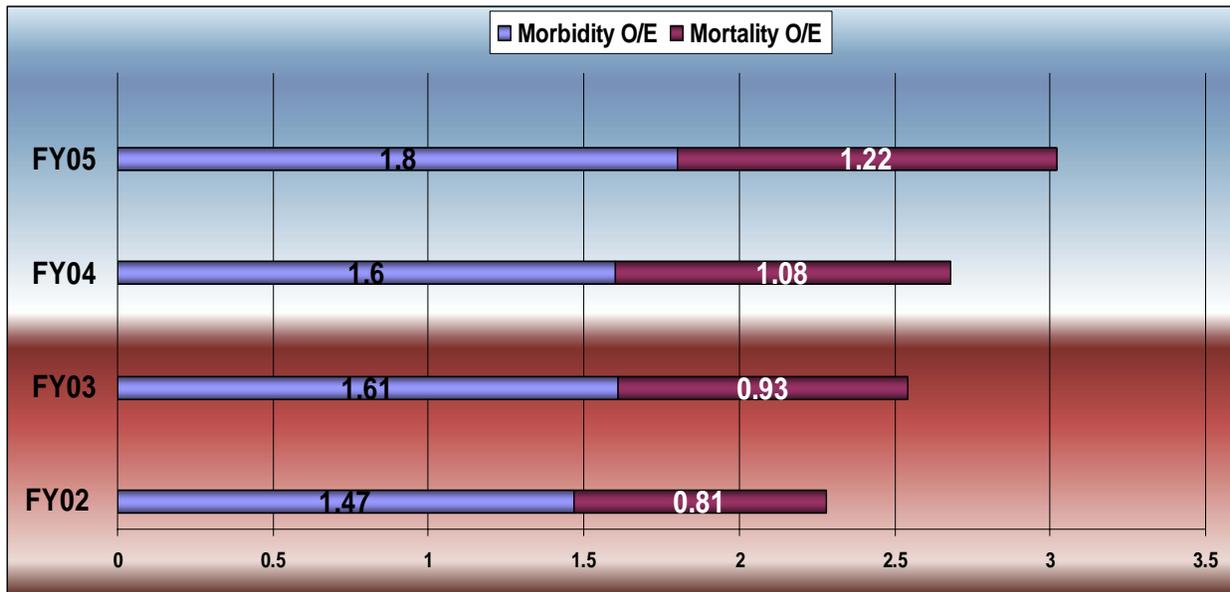
The system's Medical Staff By-Laws, Rules and Regulations for fiscal year (FY) 2005 and FY 2006 state in Section 4.0, Medical Staff Functions, "important processes and/outcomes are monitored on a continuous basis by the medical staff." Our inspection determined the system did not adequately monitor clinical outcomes during the time period in which these patients were in the SICU.

Available quality monitors specific for general surgery patients at the system included only NSQIP data. We reviewed this data and found it demonstrated a trend towards increased morbidity and mortality (M&M) for general surgery at the system.

¹² Medical Staff By-Laws, Rules, and Regulations FY 2005 and the system's Bylaws and Rules of the Medical Staff FY 2006.

¹³ Compliance with Section R6, Supervision; Section R7, Admissions Discharges and Patient Care; Section R8, Patient Orders; and Section R9, General Rules.

System NSQIP Data for General Surgery



The cause of this trend is unknown. The absence of specific outcome measures applicable to the SICU precludes an analysis for or of SICU-specific causation. Currently, the only other data reviewed at the system in relation to SICU is the VA Continuous Improvement in Cardiac Surgery Program criteria, which is not applicable to general surgery.

Another vehicle the system might use to monitor outcomes relative to a specific unit would be through medical staff committees. The SICU committee at the system, however, had not met in the 2 years preceding the date of our inspection. A document entitled “The SICU Committee” was received by the inspectors indicating it was current and recently reviewed by members including, but not limited to the system Director of the SICU, Nurse Manager of SICU, general surgery Nurse Supervisor, and Hospital Quality Management. The document states the SICU Committee meets in the OR conference room at 3:00 pm on the last Wednesday of the last month of each quarter. No committee minutes for the last 12 months were available for review.

When interviewed, several physicians stated the SICU committee had not met in several years, and quality indicators and outcomes measures for SICU were neither established nor reviewed. Quality of care data collected for the SICU began 2–3 months prior to this inspection and concerned ventilator acquired pneumonia, number of days on ventilators, and central line associated sepsis.

Peer Review

We determined peer¹⁴ review programs were not conducted in accordance with VHA Directive 2004-054, *Peer Review for Quality Management*, and system Policy Memorandum 11-04-35. The directive states:

- Protected peer review for quality improvement always starts with an “initial review,” which must be completed within 45 days.
- The initial review results in determination of a Level 1, Level 2, or Level 3.¹⁵ Completed initial protected peer reviews for quality improvement that were conducted by an individual reviewer must be sent to a multi-disciplinary Peer Review Committee or subcommittee chaired by the Chief of Staff, or designee.
- The Peer Review Committee then reconsiders all protected peer review cases within the system completed by the individual initial peer reviewers when the level of review is determined to be a Level 2 or Level 3. Since the Peer Review Committee oversees all peer reviews, a sufficient and representative sample of Level 1 peer review cases need to be reviewed to ensure the validity and reliability of the findings and to evaluate the peer review process.
- A system-level policy for protected peer review is developed and approved by the VISN Director by March 4, 2005. At a minimum, this policy must require protected peer review (conducted for quality improvement purposes, including resource utilization) occur as described in this Directive.

The system conducted 54 peer reviews in FY 2005 and FY 2006. Twenty-seven were identified as Level 1, 15 were identified as Level 2, and 12 were identified as Level 3.

Fifty-nine percent of Level 1 cases were reviewed by a multidisciplinary Peer Review Panel. Initial reviews were conducted by an RN who forwarded cases which did not meet established criteria to the appropriate service chief for evaluation and grading. However, only 3 of 11 initial peer review cases inspected by this team fully documented the initial peer evaluation with level of care determinations consistent with the requirements.

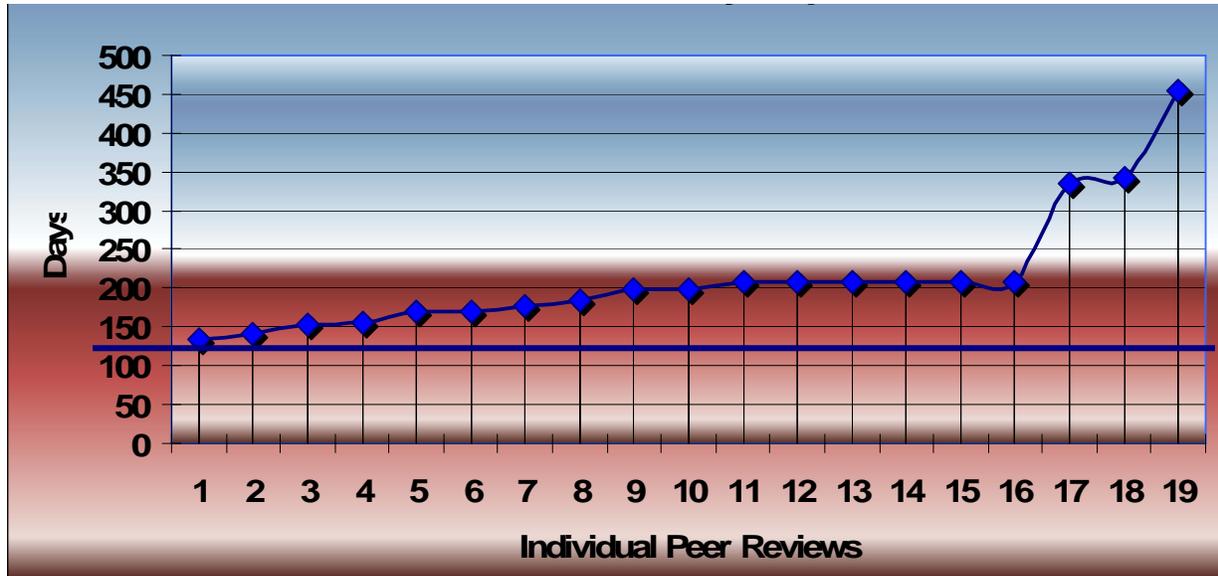
Completion of initial peer review is required within 45 days. Thirteen of 54 reviews did not meet this requirement. Fully completed peer review is required within 120 days for all Level 3 and Level 2 cases, and system identified Level 1 cases. Forty-one of 54 cases

¹⁴ A “peer” is defined as an individual of similar education, training, licensure and clinical privileges.

¹⁵ (a) Level 1 – Most experienced, competent practitioners would have managed the case similarly in all of the aspects listed; (b) Level 2 – Most experienced, competent practitioners might have managed the case differently in one or more of the aspects; (c) Level 3 – Most experienced, competent practitioners would have managed the case differently in one or more of the aspects.

reviewed by this inspection team required completed peer reviews. A total of 19 cases (46 percent) did not meet the required 120 day limitation.

Number of Days to Complete Peer Review Beyond the 120 Day Requirement



Additionally, peer review is not routinely done in the surgery department. While basic peer review may be done in M&M reviews, a different standard is used by the university and by the system to identify cases for discussion.

The current process of peer review is evolving and in most departments, VA and non-VA cases are discussed together at M&M reviews. Deaths of surgical patients are peer reviewed by the Operative and Other Procedures Committee. Cases may go to the system-wide protected peer review committee which is scheduled to meet monthly. Inspectors reviewed VHA Directive 2005-056, *Mortality Assessment*, and found the system did not comply with initial review time requirements of 30 days in 3 of 24 cases identified in FYs 2005 and 2006.

Identification of cases for peer review was not consistent within the system and was based mostly on the need for mortality reviews. Incident reports, family and patient complaints, as well as other reports of contact make up 98 percent of all FY 2005–2006 peer reviews. Only 2 percent of peer reviews were based on clinical outcomes.

Management and Organizational Structure

We also reviewed the overall organizational structure of the SICU as a potential contributing factor to quality of care concerns. A single attending surgeon assumed management responsibilities for the SICU for the 18 months prior to our inspection period. There was no written appointment or organizational plan or directive. As a result, staff expressed uncertainty as to reporting procedures for their quality of care

concerns when it involved the care of this individual. At the time of our inspection, the SICU was co-managed by general surgery and anesthesia. Co-management of the SICU among the general surgery and anesthesia departments is unusual and is designed to allow residents from both departments to experience different patient management philosophies and techniques. Despite the change in management, there was no organizational plan or directive for the SICU that had been communicated with the staff. However, a proposed plan outlining responsibilities of the SICU Director and SICU Committee was being written and reviewed for approval.

Appointment letters identifying physician leadership roles also did not exist in the SICU, and physicians who had been told they were in leadership roles could not elaborate on the responsibilities and level of authority they held. Medical staff appointments are not approved through the professional standards board and are not documented in physician credentialing files. Nurses who worked within the SICU could not consistently identify positions of authority and chain of command.

Patient Advocacy Program

We found during the course of reviewing the cases identified by the complainants that the advocacy program in SICU was ineffective. Nursing staff interviewed could not clearly explain the process, including identifying to whom patients and/or families could express concerns regarding their physician team, or when a response to voiced concerns could be expected. Family members interviewed stated they were not given appropriate referrals or documentation of the advocacy process. VHA Handbook 1003.4, *VHA Patient Advocacy Program*, issued September 2, 2005, states the system Quality Manager is responsible for creating mechanisms to “ensure any significant single patient complaint is brought to the attention of appropriate staff to trigger assessment of whether there needs to be a facility system analysis of the problem and follow-up.”

Medical Records Documentation

We found that nursing documentation on SICU flowsheets did not comply with VHA Handbook 1907.1, *Health Information Management and Health Records*, or local policy regarding medical record documentation. Documentation on the SICU nursing flowsheet was inconsistent, illegible, and reflected the lack of uniform training among staff. Some nursing staff charted by exception while others fully completed flowsheet and nursing note entries. RTs stated they could not rely on the validity of the SICU flow sheet for laboratory values and ventilatory settings, so they used their own flowsheet. The RTs charting was also often illegible and often documented on poorly replicated copies of original flowsheets. Terminologies used on flowsheets were inconsistent and contained unapproved abbreviations. Medical records reviewed in hardcopy contained entries filed in the wrong patient record and had incomplete entries.

Nursing Practice Guidance

Based on nursing staff interviews, clinical practice in the SICU consists of “word of mouth” processes and practices which are not delineated by policy. Protocols do not exist for documentation on the SICU flowsheet of, for example, nursing administration of vasopressors¹⁶ and for many other SICU practices. Process documents shared with inspectors did not contain signatures and recertification dates, although some did reflect a review date of August 2006 and the author’s name.

Conclusion

We substantiated the allegation that the general surgery did not follow consultative advice concerning fluid management for the patient cases reviewed for this inspection. However, while we disagreed with the fluid management in the care of Patients 1, 2, and 3, we found that the patients’ volume status did not directly result in the patient deaths. Our review was complicated by general surgery’s failure to adequately document ventilatory changes or a plan for ventilatory management despite the presence of persistent elevated carbon dioxide levels, acidosis, and high oxygen requirements.

Multiple staff members indicated that they had concerns regarding the care these patients received in the SICU. In one instance, the Chief of Staff acted to remove a patient from the SICU as a result of family concerns and per family request. However, deficiencies in the management and organizational structure, patient advocacy program, and administrative nursing guidance prevented these concerns from being adequately addressed in a systematic fashion.

Quality management and peer review programs are important mechanisms for monitoring quality of care systematically. We found, however, that the quality management program did not monitor clinical outcomes or documentation of resident supervision in the SICU. The peer review program did not function in compliance with applicable directives, impairing the ability to identify opportunities for improvement in clinical care. This failure to systematically monitor clinical outcomes, educate staff on the appropriate way to raise their concerns, and monitor resident supervision prevented the system from identifying a pattern of cases involving similar quality of care concerns.

Facility Interventions

Prior to our third site visit, we note that the system sought to correct a number of these concerns. The system obtained outside consultative advice concerning patient care team structure and authority, resident supervision, and peer review. The outside consultative team made many recommendations, including development of a process action team to systematically transition the SICU to standardized templates. Further, it recommended

¹⁶ Vasopressor drugs cause or promote the narrowing of blood vessels, which in turn raises blood pressure.

implementation of ventilator and care protocols, daily multidisciplinary rounds including nursing and respiratory therapy, the posting of treatment goals at the bedside, tracking patient outcomes through the SICU committee, beginning a quality improvement project, and developing an ongoing peer review process for the SICU establishing a higher review rate because of the acknowledged problem areas.

We were provided with documentation of the system's exceptional compliance with these recommendations. We found protocols in place for cardiac monitoring, IV insulin infusion, and severe sepsis and septic shock fluid therapy. Ventilator Bundle patient management orders were developed and implemented. Further, Service Memorandum 111E-07-04, implemented on March 15, 2007, required a physician order for ventilatory setting changes and required any discrepancy between ventilatory settings and orders to be documented in an incident report. On April 12, 2007, the Medical Records Committee approved five templates, including a respiratory therapy template, an extubation note, an intubation note, weaning notes, and a note for other ventilatory modes. The SICU committee held its first meeting in four years on October 16, 2006. We were provided with meeting minutes reflecting monthly meetings from January 2007 moving forward. Finally, a number of quality improvement activities were documented, including tracing medication storage and security, and pain assessment.

Recommendations

In recognition of the considerable improvements implemented by the system, we limited our recommendations to the following:

Recommendation 1. We recommended the VISN Director ensure the System Director takes action to define SICU leadership structure, responsibilities, authority, and chain of command including a systematic reporting process for quality of care concerns.

Recommendation 2. We recommended the VISN Director ensure the System Director takes action to ensure that the system's SICU quality management programs comply with VHA Handbook 1003.4 and VHA Handbook 1907.01.

Recommendation 3. We recommended the VISN Director ensure the System Director takes action to establish administrative nursing guidance in the SICU as reflected by current policies, procedures, training, and staff verbalization of practice expectations.

Recommendation 4. We recommended the VISN Director ensure the System Director takes action to ensure consistent leadership oversight of SICU performance improvement and quality management programs.

Recommendation 5. We recommended the VISN Director ensure the System Director takes action to monitor SICU medical records for compliance with resident supervision

documentation requirements found in VHA Handbook 1400.1, and system Bylaws and Rules.

Recommendation 6. We recommended the VISN Director ensure the System Director takes action to comply with VHA Directive 2004-054 and system Policy Memorandum 11-04-35 for peer review.

Comments

The Acting VISN and System Directors concurred with the findings and recommendations. (See Appendixes A and B, pages 23–32, for the full text of the Directors’ comments.) Action plans have been implemented since April 5, 2007, and since that date have remained in effect. We found the actions appropriate and consider these recommendations closed.

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

Acting VISN Director Comments

**Department of
Veterans Affairs**

Memorandum

Date: September 26, 2007

From: Acting Network Director, VA Heart of Texas Network (10N17)

Subject: **Draft Report** – Healthcare Inspection – Quality of Care in the Surgical Intensive Care Unit, South Texas Veterans Health Care System, San Antonio, Texas, Project Numbers: 2006-02911-HI-0407 and 2006-02509-HI-0379

To: Assistant Inspector General, Office of Healthcare Inspections

1. Network 17 appreciates the OIG's review and recommendations concerning the South Texas Veterans Health Care System. Each action item has been designed to completely address all issues identified within the recommendations. The VISN Office is taking both recommendations and the corrective actions very seriously. We will continue to monitor and ensure ongoing implementation and tracking of action items.
2. Please find the attached comments from the Medical Center Director, South Texas Veterans Health Care System.
3. Should you have any questions or require additional information, please contact Ms. Deborah Antai-Otong, VISN 17 Continuous Readiness Officer, 817-385-3794.

(original signed by:)

Timothy P. Shea, FACHE
Acting Network Director

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

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

OIG Recommendations

Recommendation 1. We recommended the VISN Director ensure the System Director takes action to define SICU leadership structure, responsibilities, authority, and chain of command including a systematic reporting process for quality of care concerns.

Concur **Target Completion Date:** Completed 4/5/07
(Recommend closure)

1. Leadership changes have occurred that include the selection of a new Nurse Manager for the Surgical Intensive Care Unit (SICU) and the appointment of a sole Director of the SICU.
2. Lines of communication and methodology have been established with all nursing and physician staff for reporting staff concerns through various venues including the use of a White Board to identify the daily team for all SICU staff.
3. Interdisciplinary rounds have been instituted to include Nursing, Respiratory Therapy, Pharmacy, Nutrition and Physician staff.
4. Residency Supervision monitoring has been initiated to monitor compliance with the documentation of a substantive progress noted by faculty twice a week while patients are in the Intensive Care Units. Findings are reported to the Medical Records Committee, the Compliance Executive Board (CB) and the Joint Leadership Council.

Recommendation 2. We recommended the VISN Director ensure the System Director takes action to ensure that the system's SICU quality management programs comply with VHA Handbook 1003.4 and VHA Handbook 1907.01.

Concur **Target Completion Date:** Completed 4/5/07
(Recommend closure)

1. Protocols have been developed, implemented and made accessible to all SICU staff concerning fluid management, ventilator management, and insulin administration.
2. Computer templates and order sets were developed and implemented to improve documentation of SICU patient care.
3. The SICU Committee and membership has been re-instituted to include Respiratory Therapist and SICU Registered Nurse. The Committee consistently meets monthly and reports to the Clinical Executive Board (CEB).
4. An SICU Committee Dashboard has been established to monitor critical indicators of quality of care to include morbidity and mortality, compliance with established protocols, IHI initiatives, glucose control, timely discontinuation of antibiotics and code blue documentation.
5. An Operative and Invasive Committee (OOP) Dashboard has been established and is used to monitor the monthly status of surgical quality of care indicators.
6. The Peer Review process has been restructured to improve timeliness. All SICU death Peer Reviews are completed through the Peer Review Committee process. Timeliness of peer reviews is tracked on the CEB dashboard. These data are forwarded to the Joint Leadership Board.
7. Tracer methodology has been instituted in the SICU to ensure provision of quality care and compliance with Joint Commission Standards and National Patient Safety Goals (NPSG).

Recommendation 3. We recommended the VISN Director ensure the System Director takes action to establish administrative nursing guidance in the SICU as reflected by current policies, procedures, training, and staff verbalization of practice expectations.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

1. The selection of a new Nurse Manager for the Surgical Intensive Care Unit (SICU) has been implemented
2. The Nurse Manager has met with all nursing staff in concert with the SICU Director and established lines of communication and methodology for reporting staff concerns between all nursing staff in concert with the SICU Director.

3. A Deputy Nurse Executive has been selected to ensure administrative oversight of nursing practice throughout the South Texas Veterans Health Care System.

4. A White Board has been installed to ensure that all SICU staff is readily informed and able to identify the daily care team for all SICU patients.

5. Interdisciplinary rounds have been established and include Nursing, Respiratory Therapy, Pharmacy, Nutrition, and Physician staff.

6. Protocols have been developed, implemented and made accessible to all SICU staff on fluid management, ventilator management, and insulin administration.

7. Computer templates and order sets have been developed and implemented to facilitate and improve documentation of SICU patient care.

Recommendation 4. We recommended the VISN Director ensure the System Director takes action to ensure consistent leadership oversight of SICU performance improvement and quality management programs.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

1. The Medical center has re-instituted and reconstituted membership of the SICU Committee to include a Respiratory Therapist and SICU Registered Nurse. The Committee consistently meets monthly and reports to the Clinical Executive Board (CEB).

2. Under the Direction of the Chief of Surgery, a monthly, facility specific surgery section morbidity and mortality conference has been established. All morbidity and mortality issues that occur in the surgical section are discussed. The NSQIP QM Clinician attends the conference providing morbidity and mortality data through the NSQIP review process. All SICU Attending physicians participate in this conference.

3. Applied tracer methodology has been instituted in the SICU to ensure that National Patient Safety Goals (NPSG), Joint Commission Standards, and South Texas Policies and Procedures are understood and implemented by all SICU staff. Tracer findings are being tracked monthly on the OOP Committee Dashboard, reported to the SICU Committee, CEB and the Joint Leadership Council.

Recommendation 5. We recommended the VISN Director ensure the System Director takes action to monitor SICU medical records for compliance with resident supervision documentation requirements found in VHA Handbook 1400.1, and system Bylaws and Rules.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

1. The Medical Center has established a process that ensures that all resident supervision issues are monitored monthly and reported to the Medical Records Committee, to the Compliance Executive Board and the Joint Leadership Council. Monitoring is conducted for documentation of a substantive progress noted by Attendings twice a week while patients are in the Intensive Care Units. Findings are reported to the MRC, Compliance Executive Board and the Joint Leadership Council.

Recommendation 6. We recommended the VISN Director ensure the System Director takes action to comply with VHA Directive 2004-054 and system Policy Memorandum 11-04-35 for peer review.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

1. The Medical Center has established a monthly, facility specific surgery section morbidity and mortality conference. Utilizing facility NSQUIP data all morbidity and mortality issues are discussed.

2. The Medical Center has streamlined its peer review process to ensure timeliness of peer reviews, which are tracked on the CEB dashboard. Data from the CEB is forwarded to the Joint Leadership Council. All peer reviews have been completed within the required timeframe.

System Director Comments

**Department of
Veterans Affairs**

Memorandum

Date: September 24, 2007

From: Director, South Texas Veterans Health Care System (00)

Subject: Healthcare Inspections – Quality of Care in the Surgical Intensive Care Unit, South Texas Veterans Health Care System, San Antonio, Texas

To: Director, OIG Dallas Regional Office of Health Care Inspections

1. I appreciate the opportunity to provide comments to the report of the Office of Inspector General (OIG) Quality of Care in the Surgical Intensive Care Unit South Texas Veterans Health Care System (STVHCS) in San Antonio, Texas. I carefully reviewed the report and related documents. I concur with all of the recommendations proposed by OIG, and am pleased to note all actions for improvement have been implemented since April 05, 2007, and since that date have remained in effect.

2. I would like to thank the OIG Team Leader and her staff for a careful and thoughtful review of these issues. I appreciate the knowledge, expertise, and considerable efforts of all team members. Their recommendations and additional insights have helped us to improve our systems and our care of the patients in the Surgical Care Unit.

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 the VISN Director ensure the System Director takes action to define SICU leadership structure, responsibilities, authority, and chain of command including a systematic reporting process for quality of care concerns.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

1. Leadership changes included the selection of a new Nurse Manager for the Surgical Intensive Care (SICU) and the appointment of a sole Director of the SICU.
2. The Chief of the SICU and the Nurse Manager met with all nursing and physician staff to establish lines of communication and methodology for reporting staff concerns.
3. A White Board was installed and is utilized to identify the daily care team for all SICU staff.
4. Interdisciplinary rounds were instituted to include Nursing, Respiratory Therapy, Pharmacy, Nutrition, and Physician staff.
5. Resident Supervision monitoring has been initiated to monitor compliance with the documentation of a substantive progress noted by faculty twice per week while patient are in the Intensive Care Units. Findings are reported to the Medical Records Committee (MRC), to the Compliance Executive Board (CB) and ultimately to the JLC.

Recommendation 2. We recommended the VISN Director ensure the System Director takes action to ensure that the system's SICU quality management programs comply with VHA Handbook 1003.4 and VHA Handbook 1907.01.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

1. Protocols were developed, implemented and made accessible to all SICU staff on fluid management, ventilator management, and insulin administration.
2. Computer templates and order sets were developed and implemented to improve documentation of SICU patient care.
3. Re-instituted and reconstituted membership of the SICU Committee to include Respiratory Therapist and SICU Registered Nurse. Committee consistently meets monthly and reports to the Clinical Executive Board (CEB).
4. Creation of an SICU Committee Dashboard to monitor critical indicators of quality care to include morbidity and mortality, compliance with established protocols, IHI initiatives, glucose control, timely d/c of antibiotics, and code blue documentation.
5. Development of an Operative and Invasive Committee (OOP) Dashboard to monitor monthly status of surgical quality of care indicators.
6. Restructured the Peer review process to improve timeliness by eliminating medical staff review by Operative and Invasive Committee (OOP). To facilitate performing and completing all SICU death Peer Reviews in a timely manner, death reviews are now completed through the Peer Review Committee process. Timeliness of peer reviews is tracked on the CEB dashboard, which is forwarded to the Joint Leadership Council (JLC). All peer reviews have been completed within the required timeframe.
7. Applied tracer methodology was instituted in the SICU to ensure provision of quality care and compliance with the Joint Commission Standards and National Patient Safety Goals (NPSG). The tracer program ensures that these standards are understood and implemented by all SICU staff members. Tracer findings are tracked on the monthly OOP Committee Dashboard, reported to SICU committee, CEB and ultimately to the JLC.

Recommendation 3. We recommended the VISN Director ensure the System Director takes action to establish administrative nursing guidance in the SICU as reflected by current policies, procedures, training, and staff verbalization of practice expectations.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

1. The selection of a new Nurse Manager for the Surgical Intensive Care (SICU) was implemented.
2. The Nurse Manager met with all nursing staff in concert with the SICU Director to establish lines of communication and methodology for reporting staff concerns.
3. The selection of a Deputy Nurse Executive to ensure administrative oversight for nursing practice throughout the South Texas Veterans Health Care System.
4. A White Board was installed to ensure that all SICU staff are always informed and able to identify the daily care team for all SICU patients.
5. Interdisciplinary rounds were instituted to include Nursing, Respiratory Therapy, Pharmacy, Nutrition, and Physician staff.
6. Protocols were developed, implemented and made accessible to all SICU staff on fluid management, ventilator management, and insulin administration to enhance SICU understanding.
7. Computer templates and order sets were developed and implemented to facilitate and improve documentation of SICU patient care.

Recommendation 4. We recommended the VISN Director ensure the System Director takes action to ensure consistent leadership oversight of SICU performance improvement and quality management programs.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

1. Re-instituted and reconstituted membership of the SICU Committee to include Respiratory Therapist and SICU Registered Nurse. Committee consistently meets monthly and reports to the Clinical Executive Board (CEB).
2. Under the Direction of the Chief of Surgery, a monthly, facility specific surgery section morbidity and mortality conference has been established. All morbidity and mortality issues occurring in the surgical section are discussed. The NSQIP QM Clinician attends the conference providing morbidity and mortality data gathered through the NSQIP review process. All SICU Attendings participate in this conference.
3. Applied tracer methodology was instituted in the SICU to ensure that National Patient Safety Goals (NPSG), Joint Commission Standards, and

South Texas Policies and Procedures are understood and implemented by all SICU staff members. Tracer findings are tracked on the monthly OOP Committee Dashboard, reported to SICU committee, CEB and ultimately to the JLC.

4. Development of an Operative and Invasive Committee (OOP) Dashboard to monitor monthly status of quality initiatives. Monthly dashboards are sent to SICU Committee, CEB, and ultimately to the JLC.

Recommendation 5. We recommended the VISN Director ensure the System Director takes action to monitor SICU medical records for compliance with resident supervision documentation requirements found in VHA Handbook 1400.1, and system Bylaws and Rules.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

All resident supervision issues are monitored monthly and reported to MRC, and then upward through the Committee and Board process. Monitoring is now also conducted for documentation of a substantive progress noted by Attendings twice per week while patient are in the Intensive Care Units. Findings are reported to the Medical Records Committee (MRC), to the Compliance Executive Board (CB) and ultimately to the JLC.

Recommendation 6. We recommended the VISN Director ensure the System Director takes action to comply with VHA Directive 2004-054 and system Policy Memorandum 11-04-35 for peer review.

Concur **Target Completion Date:** 4/05/07
(Recommend closure)

1. A monthly, facility specific surgery section morbidity and mortality conference has been established. Utilizing facility NSQIP data all morbidity and mortality issues occurring in the surgical section are discussed. All SICU Attendings participate.

2. Peer review process was streamlined by eliminating medical staff review by Operative and Invasive Committee (OOP). To facilitate performing and completing all SICU deaths in a timely manner, death reviews are now sent directly to the Peer Review Committee process. Timeliness of peer reviews are tracked on the CEB dashboard, which is forwarded to the Joint Leadership Council (JLC). All peer reviews have been completed within the required timeframe.

OIG Contact and Staff Acknowledgments

OIG Contact	Karen Moore, Associate Director Dallas Office of Healthcare Inspections (214) 253-3332
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Acknowledgments	Linda DeLong, Director Andrea Buck, M.D., J.D. Shirley Carlile Roxanna Osegueda
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