Task 2 Scenario and Requirements

**734.3.1**Principles of Leadership

The graduate applies principles of leadership to promote high-quality healthcare in a variety of settings through the application of sound leadership principles.

**734.3.2**Interdisciplinary Collaboration

The graduate applies theoretical principles necessary for effective participation in an interdisciplinary team.

**734.3.3**Quality and Patient Safety

The graduate applies quality improvement processes intended to achieve optimal healthcare outcomes, contributing to and supporting a culture of safety.

INTRODUCTION

Healthcare organizations accredited by the Joint Commission are required to conduct a root cause analysis (RCA) in response to any sentinel event, such as the one described in the scenario attached below. Once the cause is identified and a plan of action established, it is useful to conduct a failure mode and effects analysis (FMEA) to reduce the likelihood that a process would fail. As a member of the healthcare team in the hospital described in this scenario, you have been selected as a member of the team investigating the incident.

SCENARIO

It is 3:30 p.m. on a Thursday and Mr. B, a 67-year-old patient, arrives at the six-room emergency department (ED) of a sixty-bed rural hospital. He has been brought to the hospital by his son and neighbor. At this time, Mr. B is moaning and complaining of severe pain to his (L) leg and hip area. He states he lost his balance and fell after tripping over his dog.

Mr. B was admitted to the triage room where his vital signs were B/P 120/80, HR-88 (regular), T-98.6, and R-32, and his weight was recorded at 175 pounds. Mr. B. states that he has no known allergies and no previous falls. He states, “My hip area and leg hurt really bad. I have never had anything like this before.” Patient rates pain at 10 out of 10 on the numerical verbal pain scale. He appears to be in moderate distress. His (L) leg appears shortened with swelling (edema in the calf), ecchymosis, and limited range of motion (ROM). Mr. B’s leg is stabilized and then is further evaluated and discharged from triage to the emergency department (ED) patient room. He is admitted by Nurse J. Nurse J finds that Mr. B has a history of impaired glucose tolerance and prostate cancer. At Mr. B’s last visit with his primary care physician, laboratory data revealed elevated cholesterol and lipids. Mr. B’s current medications are atorvastatin and oxycodone for chronic back pain. After Mr. B’s assessment is completed, Nurse J informs Dr. T, the ED physician, of admission findings, and Dr. T proceeds to examine Mr. B.

Staffing on this day consists of two nurses (one RN and one LPN), one secretary, and one emergency department physician. Respiratory therapy is in-house and available as needed. At the time of Mr. B’s arrival, the ED staff is caring for two other patients. One patient is a 43-year-old female complaining of a throbbing headache. The patient rates current pain at 4 out of 10 on numerical verbal pain scale. The patient states that she has a history of migraines. She received treatment, remains stable, and discharge is pending. The second patient is an eight-year-old boy being evaluated for possible appendicitis. Laboratory results are pending for this patient. Both of these patients were examined, evaluated, and cared for by Dr. T and are awaiting further treatment or orders.

After evaluation of Mr. B, Dr. T writes the order for Nurse J to administer diazepam 5 mg IVP to Mr. B. The medication diazepam is administered IVP at 4:05 p.m. After five minutes, the diazepam appears to have had no effect on Mr. B, and Dr. T instructs Nurse J to administer hydromorphone 2 mg IVP. The medication hydromorphone is administered IVP at 4:15 p.m. After five minutes, Dr. T is still not satisfied with the level of sedation Mr. B has achieved and instructs Nurse J to administer another 2 mg of hydromorphone IVP and an additional 5 mg of diazepam IVP. The physician’s goal is for the patient to achieve skeletal muscle relaxation from the diazepam, which will aid in the manual manipulation, relocation, and alignment of Mr. B’s hip. The hydromorphone IVP was administered to achieve pain control and sedation. After reviewing the patient’s medical history, Dr. T notes that the patient’s weight and current regular use of oxycodone appear to be making it more difficult to sedate Mr. B.

Finally, at 4:25 p.m., the patient appears to be sedated, and the successful reduction of his (L) hip takes place. The patient appears to have tolerated the procedure and remains sedated. He is not currently on any supplemental oxygen. The procedure concludes at 4:30 p.m.,and Mr. B is resting without indications of discomfort and distress. At this time, the ED receives an emergency dispatch call alerting the emergency department that the emergency rescue unit paramedics are enroute with a 75-year-old patient in acute respiratory distress. Nurse J places Mr. B on an automatic blood pressure machine programmed to monitor his B/P every five minutes and a pulse oximeter. At this time, Nurse J leaves Mr. B’s room. The nurse allows Mr. B’s son to sit with him as he is being monitored via the blood pressure monitor. At 4:35 p.m., Mr. B’s B/P is 110/62 and his O2 saturation is 92%. He remains without supplemental oxygen and his ECG and respirations are not monitored.

Nurse J and the LPN on duty have received the emergency transport patient. They are also in the process of discharging the other two patients. Meanwhile, the ED lobby has become congested with new incoming patients. At this time, Mr. B’s O2 saturation alarm is heard and shows “low O2 saturation” (currently showing a saturation of 85%). The LPN enters Mr. B’s room briefly, resets the alarm, and repeats the B/P reading.

Nurse J is now fully engaged with the emergency care of the respiratory distress patient, which includes assessments, evaluation, and the ordering of respiratory treatments, CXR, labs, etc.

At 4:43 p.m., Mr. B’s son comes out of the room and informs the nurse that the “monitor is alarming.” When Nurse J enters the room, the blood pressure machine shows Mr. B’s B/P reading is 58/30 and the O2 saturation is 79%. The patient is not breathing and no palpable pulse can be detected.

A STAT CODE is called and the son is escorted to the waiting room. The code team arrives and begins resuscitative efforts. When connected to the cardiac monitor, Mr. B is found to be in ventricular fibrillation. CPR begins immediately by the RN, and Mr. B is intubated. He is defibrillated and reversal agents, IV fluids, and vasopressors are administered. After 30 minutes of interventions, the ECG returns to a normal sinus rhythm with a pulse and a B/P of 110/70. The patient is not breathing on his own and is fully dependent on the ventilator. The patient’s pupils are fixed and dilated. He has no spontaneous movements and does not respond to noxious stimuli. Air transport is called, and upon the family’s wishes, the patient is transferred to a tertiary facility for advanced care.

Seven days later, the receiving hospital informed the rural hospital that EEG’s had determined brain death in Mr. B. The family had requested life-support be removed, and Mr. B subsequently died.

Additional information: The hospital where Mr. B. was originally seen and treated had a moderate sedation/analgesia (“conscious sedation”) policy that requires that the patient remains on continuous B/P, ECG, and pulse oximeter throughout the procedure and until the patient meets specific discharge criteria (i.e., fully awake, VSS, no N/V, and able to void). All practitioners who perform moderate sedation must first successfully complete the hospital’s moderate sedation training module. The training module includes drug selection as well as acceptable dose ranges. Additional (backup) staff was available on the day of the incident. Nurse J had completed the moderate sedation module. Nurse J had current ACLS certification and was an experienced critical care nurse. Nurse J’s prior annual clinical evaluations by the manager demonstrated that the nurse was “meeting requirements.” Nurse J did not have a history of negligent patient care. Sufficient equipment was available and in working order in the ED on this day.

REQUIREMENTS

*Your submission must be your original work. No more than a combined total of 30% of the submission and no more than a 10% match to any one individual source can be directly quoted or closely paraphrased from sources, even if cited correctly. An originality report is provided when you submit your task that can be used as a guide.*

*You must use the rubric to direct the creation of your submission because it provides detailed criteria that will be used to evaluate your work. Each requirement below may be evaluated by more than one rubric aspect. The rubric aspect titles may contain hyperlinks to relevant portions of the course.*

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| You will demonstrate your understanding of IHI & C489 Course Materials as you complete a Root Cause Analysis, Improvement Plan & FMEA table based on a case study.  |

A. Explain the general purpose of conducting a root cause analysis (RCA).

1. Explain each of the **six**steps used to conduct an RCA, as defined by IHI.

2. Apply the RCA process to the scenario to describe the causative and contributing factors that led to the sentinel event outcome.

B. Propose a process improvement plan that would decrease the likelihood of a reoccurrence of the scenario outcome.

1. Discuss how each phase of Lewin’s change theory on the human side of change could be applied to the proposed improvement plan.

C. Explain the general purpose of the failure mode and effects analysis (FMEA) process.

1. Describe the steps of the FMEA process as defined by IHI.

2. Complete the attached FMEA table by appropriately applying the scales of severity, occurrence, and detection to the process improvement plan proposed in part B.

D. Explain how you would test the interventions from the process improvement plan from part B to improve care.

E. Explain how a professional nurse can competently demonstrate leadership in *each* of the following areas:

• promoting quality care

• improving patient outcomes

• influencing quality improvement activities

1. Discuss how the involvement of the professional nurse in the RCA and FMEA processes demonstrates leadership qualities.

F. Acknowledge sources, using in-text citations and references, for content that is quoted, paraphrased, or summarized.

G. Demonstrate professional communication in the content and presentation of your submission.