NCPS
Nebraska Coalition for Patient Safety

A Fatal Medication Error Reveals the Importance of Implementing a Just Culture

It is my goal that NCPS be recognized as an expert resource in conducting training programs that support the four pillars of a culture of Safety: just culture, reporting culture, teamwork culture, and learning culture. The fatal medication error that occurred at Vanderbilt University Medical Center (VUMC) on 12/27/17 is no longer in the headlines. However, many healthcare professionals are aware of parts of the story and may have formed strong opinions about the fairness of the response. The nurse involved lost her nursing license and was sentenced to three years of probation. The patient, a 75-year-old wife, mother, and grandmother, died. What may not be known, is that an anonymous whistleblower alerted state and federal agencies to the error in October 2018; 10 months after it occurred.

A just culture is the foundation of a culture of safety. There are two key principles at the core of a just and fair culture. The first principle is shared accountability: individuals are accountable for their behavioral choices while management is responsible for system design. The second principle is that there are three types of human behavior: human error, at-risk behavior, and reckless behavior. People don't choose to make human errors. Therefore, management's response to human error is to console the individual and redesign the system to mitigate a recurrence of the error. Human behavior drifts toward the unsafe space; we make a choice when we work around a rule to more quickly complete a task. (When the speed limit is 75 mph, how fast do you drive)? How management responds to this at-risk drifting behavior depends upon whether others are drifting, too. At a minimum, management must coach the drifting individual and redesign the system. Reckless behavior is intentional, so management must discipline the individual and find out how system design could have helped to prevent the reckless behavior.

This fatal medication error is a stark example of what happens when human error and behavioral drift collide with a system that is not designed to mitigate either. The summary and timeline below are intended to provide the details of this collision. Without the anonymous whistleblower, would VUMC have developed a plan to redesign the system or would their response have been limited to blaming the individual nurse?

Patients deserve to be cared for within systems that are designed to account for human fallibility. Fallible human beings deserve to work within a fair and just culture. Justice and effective system design are two antidotes to staff burnout. It is for these simple reasons, that NCPS provides Just Culture Training to healthcare organizations that seek to improve their culture of safety.

Please consult the listed references for additional information about this fatal medication error. Please contact Emily Barr (embarr@unmc.edu), Executive Director of NCPS, for information about Just Culture Training for healthcare organizations.

Sincerely,

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Summary of a Fatal Medication Error: Human Fallibility Collides with System Design

On 12/27/17, Charlene Murphey, a 75-year-old wife, mother, and grandmother died of an IV medication error at Vanderbilt University Medical Center (VUMC). Mrs. Murphey had experienced a brain bleed on Christmas Eve (12/24/17) and was admitted to VUMC. Her providers wanted to determine the cause of the bleed and so ordered a PET scan on 12/26/17. In radiology, Mrs. Murphey complained of claustrophobia so a radiology team member called the Neuro-ICU to request an anxiolytic; a provider ordered midazolam (Versed).

RaDonda Vaught was the designated "Help-All Nurse" in the Neuro-ICU on 12/26/17. The "Help-All" assists other nurses by performing tasks/procedures. RaDonda was also orienting a new-graduate RN to the Neuro-ICU during this shift. They were planning to go to the ED to conduct a swallowing screen when Mrs. Murphey's primary nurse asked RaDonda to obtain Versed from the Acudose in the unit, go to radiology, and administer the drug to Mrs. Murphey. RaDonda typed "VE" into the Acudose, which defaulted to generic names; vecuronium appeared at the top of the list. A standard override warning appeared. Because the hospital had just updated the EHR – Acudose interface, pharmacy review of orders was often delayed, and RaDonda did not want to further delay Mrs. Murphey's care by waiting for pharmacy to review the order. In addition, the administration had sent emails supporting use of the override function to ensure patients received timely care. (Mrs. Murphey had already received 20+ drugs that included an override).

RaDonda overrode the warning, went to radiology, looked for but could not find a barcode scanner, so she administered vecuronium to Mrs. Murphey through her central port without reading the drug name or the warnings on the vial. RaDonda returned to Neuro-ICU and a radiology tech placed Mrs. Murphey in a holding area with surveillance cameras. After 25 minutes, radiology personnel noted that Mrs. Murphey was unresponsive. They called a rapid response team who resuscitated and intubated Mrs. Murphey. Life support was removed due to brain damage, and Mrs. Murphey died at 1:07 am on 12/27/17.

Timeline of Events

12/24/17: A 75-year-old female was admitted to Vanderbilt University Medical Center with diagnoses of Intraparenchymal Hematoma of the Brain, Headache, Homonymous Hemianopsia, Atrial Fibrillation, and Hypertension. She was alert/oriented prior to hospitalization.

12/26/17 - 2 PM: PET scan scheduled to rule out cancer as cause of bleed; patient taken to radiology.

12/26/17 - 2:47 PM: Physician ordered 2mg. of Versed. PET scan called patient's primary nurse (RN #2) to come to radiology and administer the medication. RN #2 was monitoring another nurse's patients who had gone to lunch. RN #2 asked that nurses in PET give the drug. Nurses in PET were not comfortable administering the drug. RN #2 asked the "help all nurse" (RN #1, RV) to go to radiology and administer the drug.

12/26/17 - 2:59 PM: RN #1 entered "VE" in the Acudose in Neuro ICU and the machine defaulted to generic medications – vecuronium (generic name) was first on the list. Versed (brand name) did not show on the screen. An override warning in a red box appeared; the medication should be for STAT orders. RN #1 over-rode the alert.

12/26/17: RN #1 administered the medication - it's unknown what time she arrived in Radiology. There was no documentation in the medical record that the RN had administered vecuronium.

12/26/17: RRT was called at 3:29 PM. Patient was emergently intubated and had return of spontaneous circulation after 2 – 3 rounds of chest compressions; transferred to Neuro ICU.

12/27/17 - 12:57 AM: Patient was extubated due to very low likelihood of neurological recovery and expired at 1:07 AM.

1/3/18: Nurse #1 fired by VUMC.

1/2018: Hospital settles with patient's family; settlement requires family not to disclose information about the settlement.

10/31 – 11/8/18: CMS surveyed VUMC and concluded that the hospital failed to mitigate risks associated with medication errors. (Anonymous whistleblower alerted state/federal agencies about the error in 10/2018).

11/26/18: Hospital Response to CMS survey

- Revised policies: Transport of Critically Ill Patient, High Alert Medication Policy, Medication Administration Policy to include monitoring of patients after administering High Alert medications.
- Removed vecuronium from override in the ADC.
- Implemented barcode medication administration in radiology.
- Implemented 2nd nurse verification of the accuracy of orders in radiology.
- Implemented changes to ordering paralytic drugs from the ADC. A nurse must first type in PARA to obtain a paralytic drug.

2/19/19: American Nurses Association: "Health care is highly complex and ever-changing resulting in a high risk and error-prone system. However, the criminalization of medical errors could have a chilling effect on reporting and process improvement."

2/20/19: Nurse #1 charged with reckless homicide and felony abuse of an impaired adult by Nashville district attorney's office. Conduct is deemed reckless when a person disregards a substantial risk in a manner that "constitutes a gross deviation from the standard of care that an ordinary person would exercise."

July 22-23, 2021: Tennessee State Board of Nursing revoked Nurse #1's nursing license and fined her $3,000.

3/29/22: Nurse #1 was found guilty of criminally negligent homicide and gross neglect of an impaired adult.

5/13/22: A Tennessee state judge sentenced Nurse #1 to three years of probation.

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