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Criminal prosecution of clinician errors: A setback to the progress toward safe hospital work environments

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INTRODUCTION

RaDonda Vaught made a fatal drug error in 2017 as a neurological intensive care unit (Neuro ICU) registered nurse at Vanderbilt University Medical Center (VUMC). The error led to a criminal conviction for gross neglect and negligent homicide. This rare application of criminal charges for clinician error has raised concerns of chilling effects undermining the open reporting needed to prevent future errors. We review the case and patient safety implications.

THE ERROR AND SURROUNDING CIRCUMSTANCES[1]

In December 2017, Vaught was the “help-all” nurse—a resource to assist other nurses on the unit as needed. Vaught was also responsible for orienting a new nurse. A fellow nurse asked Vaught to take her patient for positron emission tomography (PET) scan as she was covering patients of another nurse and could not leave the floor. The patient experienced claustrophobia in the scanner and became anxious. An order was written for Versed to sedate the patient and complete the scan. Vaught tried to obtain the medication via the Automated Dispensing Cabinet (ADC); this system had just been updated. Vaught searched for Versed typing “VE” but got no results—the system settings expected the generic name midazolam. Vaught initiated a system override, an everyday occurrence in most hospitals, including VUMC. Vaught again typed “VE”; she selected the first medication listed—vecuronium, a dangerous paralyzing agent. The dispensed vial had a red cap and various warnings; it also required reconstitution (unusual for Versed). A barcode scan prior to administration (a standard practice) could have alerted Vaught of the mix-up, but there was no scanner in the PET area. Vaught admitted being distracted while preparing the medication, discussing an upcoming patient procedure with the orientee. She administered the drug, returned to the Neuro ICU, and gave the left-over medication vial to the patient’s primary nurse.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

A rapid response was called to the PET scan area. The patient had arrested but CPR achieved a return of spontaneous circulation; the patient returned to the floor intubated. Vaught informed the physician she had just given the Versed. The primary nurse checked the leftover vial, confirming instead that vercuronium was given. Vaught immediately told the physician she mistakenly gave vercuronium; the family was also informed. The patient suffered a severe anoxic brain injury and life support was withdrawn a day later; Vaught was fired shortly thereafter. The VUMC report to the medical examiner did not mention the error and listed the cause of death as natural. There was no sentinel event report made as federally required or as recommended by The Joint Commission. VUMC settled out of court with the family who was required to sign a nondisclosure agreement. The error only came to light nearly a year later via an anonymous report to the Centers for Medicare and Medicaid Services (CMS). State and federal investigations followed. The state initially decided not to pursue disciplinary action against Vaught but reversed that decision for undisclosed reasons. Vaught was then charged criminally by the district attorney. Although state agencies and the district attorney determined that VUMC bears a “heavy burden of responsibility” for the death, no disciplinary action was pursued. VUMC also avoided CMS sanctions by agreeing to create a remediation plan. Vaught lost her license, was convicted of negligent homicide, and sentenced to 3 years of supervised probation.

FOUNDATIONS OF PATIENT SAFETY

Any patient safety discussion leads to the National Academy of Medicine’s (NAM) 1999 report, *To Err is Human*,[2] which highlighted alarming rates of preventable medical errors and provided recommendations for a safer health system. The report acknowledged that, ideally, no patients would be harmed. But a key contribution of the report came in recognizing that while individual clinicians inevitably make mistakes, system-level reforms are paramount to effectively prevent mistakes and reduce harm. The “Swiss Cheese Model”[3] of error captures this perspective positing that adverse events nearly always occur when human error aligns with systemic failures—like holes in stacked Swiss cheese slices that, if aligned just right, allow errors to break through safeguards, requiring multiple complementary efforts to ensure safety. System failures affecting nurses take many forms and include insufficient staffing and resources, poorly integrated technology, communication breakdowns, equipment failures, missing medications/supplies, strained relationships between managers and frontline nurses, and onerous documentation.[4]

SYSTEM FAILURE EXAMPLES

Technology integration

Workarounds are intentional efforts to achieve the desired result despite an impediment.[5] Clinicians may engage in workarounds for many reasons: poor training, carelessness, and time pressure. However, some system failures disrupt work processes so severely that the intended task can only be accomplished using a workaround. This puts nurses in a bind: let care come to a halt and attempt to address the systemic failure (an effort which itself may endanger patients or incur disciplinary action) or employ a workaround. Workarounds can be so commonplace that they become the norm. In this case, the ADC allowed users to override

safeguards and warnings to access medications. This is needed in the event of time-sensitive emergencies requiring immediate access. VUMC had just changed to a new electronic health records system[6]—a major upheaval even when executed well. In this case, there were problems integrating with the ADCs, which was delaying medication administration. VUMC advised nurses to use overrides to avoid delays.[1] Only after the Vaught case were overrides disallowed to access vercuronium. The ADC was also set to require just two letters to generate the list from which to select medications. Vaught entered "VE" looking for Versed as opposed to the required generic name, ultimately resulting in erroneously withdrawing vercuromium after a system override. A few months later in a different hospital, there was a similar case of a nurse looking up Versed but inadvertently selecting and administering verapamil.[7] In response, ADC manufacturers plan to institute a five-letter requirement by default, and VUMC now shrink wraps paralyzing agents and requires a double check by another nurse before the ADC dispenses.[8]

Barcode scanning

An integral technology for safe medication administration is barcode scanning.[9] This point of administration system is intended to prevent medication errors—a final check that the right medicine goes to the right patient. The nurse scans a code on the patient's wristband and one on the medication. This would have immediately indicated Vaught's error. While Vaught could still have given the wrong medication (she had proceeded despite other warnings), there was no barcode scanning system in the PET scan area despite reasonable expectations that patients may require medication, as in this case.

Distractions/multitasking

Nurses' work is interrupted as often as six times per hour and as much as half of medication administrations are interrupted.[10] Vaught was back and forth between two floors with a patient she did not know, to administer medication in the open PET scan waiting area where she had never been before. Vaught admitted being distracted while preparing the medication, talking about another task with the shadowing new nurse orientee. The Help-All role Vaught was functioning in necessarily fractures continuity of care, requires frequent task-switching with limited information and invites unnecessary handoffs between nurses.[11,12] Vaught took on this patient because the primary nurse herself was tasked with monitoring yet another nurse's patients. Each handoff risks potential errors as responsibility shifts between nurses and information falls through the cracks.[13] Fragmentation undermines a key advantage of patient-centered nursing where a primary nurse is responsible for complete patient care. VUMC had no job description of the Help-All nurse role making the scope and accountability of the role unclear: if Vaught was uncomfortable medicating a patient in the PET scan waiting area, could she refuse? Through what process? Would she disappoint colleagues, anger the physician, or be reprimanded if she did?

IMPROVING NURSE WORK ENVIRONMENTS FOR PATIENT SAFETY

Safety expert James Reason stated, "we cannot change the human condition, but we can change the conditions under which humans work."[3] Hallmarks of good nurse work environments include adequate staffing and resources to work safely; good working

relationships with physician colleagues allowing for open discussion of safety concerns; nurses' involvement in system decisions impacting patient care (e.g., technology adoption/implementation); and trusted management that supports clinicians when errors occur and takes action to address safety concerns.[14] Recommendations for creating a good work environment are well documented in another NAM report: *Keeping Patients Safe: Transforming the Work Environment of Nurses*.[14] We highlight complementary action areas relevant to this case.

Resolve system failures

Many failures, in this case, were known issues with known safeguards that could have been in place. For example, the Institute for Safe Medication Practices (ISMP)[15,16] outlined ADC best practices, including sequestering dangerous paralyzing agents from the ADC, tiered ADC override prevention, a five-letter minimum entry in ADCs, and barcode scanning in all patient care areas.

Create a just culture

The effectiveness of safeguards like those above may depend on complementary working conditions and culture. Good work environments reflect a "just culture"[3] that recognizes human fallibility and accountability while embracing system-level responsibility to support nonpunitive error reporting and solve identified failures affecting safe nursing practice. A just culture is built on trust, but recent work shows that nearly half of nurses feel that mistakes will be held against them and over a third do not feel free to question authority even with a safety concern.[17] A just culture calls for multilevel accountability depending on the degree of intent and recklessness. There is no doubt Vaught committed an egregious error, but also no doubt that her error was unintentional. She reported the error immediately and never denied responsibility; she lost her job and her license. VUMC was largely silent, offered Vaught no support, and did little to acknowledge their role in the event including multiple failures to report the error. But the nurse bore all the criminal liability. After years of understaffing, unaddressed burnout, wage suppression, and recent COVID-19 failures (e.g., furloughs and layoffs; lack of PPE),[18–20] the Vaught case has eroded many nurses' remaining trust that their hospital will uphold their side of the just culture bargain or be held to account when errors occur. These factors contribute to hospitals' difficulties recruiting and retaining nurses despite the United States having more nurses than ever before.[21]

Implement policy guardrails

Persistent variability in hospital efforts or ability to address nurses' safety concerns suggest the need for enforceable minimum safety standards to ensure that key safety measures are in place regardless of the hospital. An example is nurse staffing levels—the most common safety concern among hospital nurses.[17] Staffing varies widely across hospitals, not accounted for by local labor supply or case-mix differences, and the variation has consequences for patients and nurses.[22–24] Poor staffing impairs key processes inherent to safe nursing practice: less surveillance capacity, more missed/rushed care, and ineffective communication, leading to worse patient outcomes.[25] Policies establishing minimum staffing levels are effective tools that improve staffing, particularly in the most understaffed hospitals.[26–28] But nurses have observed their employing hospitals vigorously oppose such

policies. In 2018, for example, Massachusetts hospitals spent “more to defeat last year’s ballot question on nurse staffing ratios than has ever been spent on a ballot question in state history.”[29] Complementary supporting policies include requiring public reporting of staffing, banning mandatory overtime, and safe harbor laws that protect nurses from retaliation when they report unsafe conditions.[30]

CONCLUSION

Billions of dollars have been invested in patient safety efforts, including sophisticated monitoring systems, barcoding technology, error prevention protocols, artificial intelligence, and multiple institutes and research centers. As this case highlights, having the technology and knowing what to do may be necessary, but not sufficient. Creating a just culture requires empowering and expecting frontline providers to actively identify failures and challenge questionable practices, including their own, and management listening to clinicians and taking action to create the conditions frontline providers need for safe practice. The need for safety-oriented work environments is not specific to nurses, physicians identify similar system issues as impacting their work: excessive workload, work-life balance issues, reduced autonomy, and electronic health record problems.[31] All are hard, but solvable problems. Criminal prosecution for clinician error promotes a culture of silence that undermines the organizational conditions needed for openness about errors, their source, and their prevention.

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