TECHNOLOGY FAILURES

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Technology in healthcare has expanded substantially over the last two decades. From electronic health records and barcode scanning to intravenous pump integration and best practice alerts, the work of healthcare providers is more automated now than ever before. But does this technology always make patient care safer? What happens when things don't go as planned? The following are examples of reported events that illustrate errors based, at least in part, on the reliance of technology.

A new registered nurse (RN) went to administer insulin but realized that the medication was dispensed in vial form, which they were not familiar with, as their clinical training in nursing school had been limited to administering insulin via patient-specific pens. Consequently, they failed to recognize that they needed to use an insulin syringe instead of a 10 milliliter syringe that was used for many other vial-based medications. They relied on the dispensing instructions from Pharmacy which read "dose 28 units, dispense 1" instead of the medication administration record (MAR) instructions. They then proceeded to scan the medication vial appropriately and entered the correct amount to match the order, assuming that the contents of the vial contained the dose of units. The patient received more than 35 times the intended dose, developed hypoglycemia, and was transferred to the intensive care unit (ICU). The patient recovered and was discharged from the ICU three days later.

In this scenario, the RN was not familiar with the use of an insulin syringe and did not realize that the Pharmacy instructions were different from the MAR. Creating alerts, such as having a picture of the syringe in the MAR to indicate there is something "different" about the administration of this medication, could be an option to prevent the recurrence of a similar event in the future. Adding an alert that notifies the user of a "partial" dose may also help to mitigate risk.

During an unplanned downtime, a patient who was nonverbal and had a documented allergy to strawberries received a meal tray with a fruit salad. The fruit salad contained strawberries and was fed to the patient. The patient developed an anaphylactic response which led to respiratory arrest. They were coded successfully and transferred to the ICU. Upon review of the event, it was determined that Dietary did not have established downtime procedures. Their computer system was linked to the electronic medical record (EMR), and they were unable to account for any allergies. The patient care assistant who was working with the patient was from the float team and was on the floor temporarily to assist as needed. They were asked to feed the patient and were not told about any allergies. The RN assigned to the patient was also acting as the charge nurse and in the middle of implementing the downtime processes for the floor when the patient received their meal tray.

Downtimes, whether planned or unplanned, can cause many challenges for staff. Most staff are unfamiliar with the use of paper charts as they have used EMRs for many years. One strategy which has been shown to be effective is to initiate the facility's command center to help manage overall operations.[1] More frequent drills of downtime procedures can increase staff knowledge and comfort with the process. Consider including all ancillary departments in these drills, such as Environmental Services and Dietary. Debrief staff after all downtimes to provide a just-in-time learning opportunity.

An overreliance on technology can lead to reduction in critical thinking skills when faced with complex or ambiguous situations. Critical tasks, such as medication administration, can become routine, causing the nurse to not consider important aspects of the patient's overall condition or their health record.

It is essential for healthcare workers and healthcare organizations to mitigate errors related to overreliance on technology by recognizing its limitations; actively cultivating critical thinking skills through ongoing education, training, and opportunities for reflection and discussion; identifying how technology can fail and proactively working to mitigate those failures; and practicing downtime procedures frequently.

Reference

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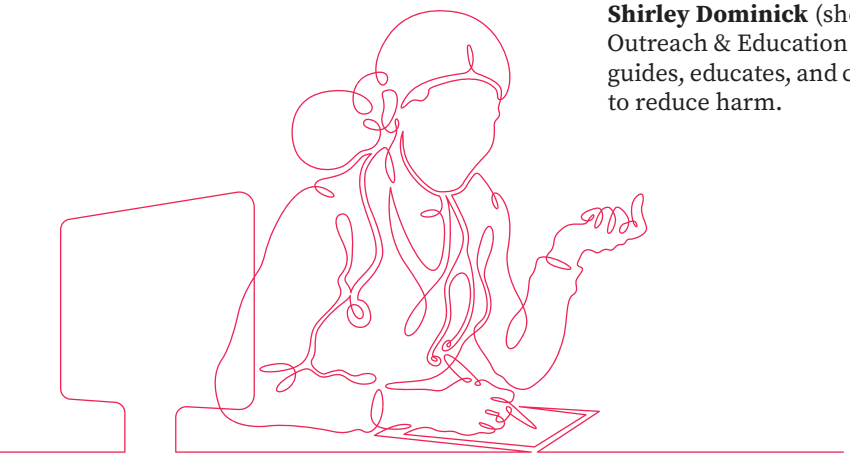

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