BACKGROUND

Delay in Device Delivery Highlighted Training Flaws

BCHO invested in 20 new external ventricular drains (EVDs) for the PICU, scheduled to be rolled out on the PICU floor in July 2017.

The EVD is a high-risk, low-frequency device. It was important that everyone using these machines be familiar with the equipment prior to introduction in the PICU. Initial training for the equipment change was a series of traditional in-service trainings. However, the EVDs were delivered 60 days later than expected, and nurses had not retained earlier training.

Looking for a more effective alternative, PICU and nurses had not retained earlier training. EVDs were delivered 60 days later than expected, and nurses had not retained earlier training.

Project Plan and Interventions

The Plan

Given the delayed delivery of the EVD devices, the PICU needed a way for nurses to have knowledge at their disposal, so that they did not rely solely on recall from one-time trainings. Video-based microlearning could capture both verbal and tacit knowledge and provide a way for our nurses to have concise refresher training available on-demand to help ensure correct practice.

Interventions

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<th>Capture training in microlearning video</th>
<th>Curate and host approved video on accessible unit and institution-specific site</th>
<th>Disseminate practice across nursing staff</th>
<th>Tracking engagement and drive peer-accountability</th>
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Examples of Traditional Training Methods:

- Infrequent staff meetings (one trainee: large group; not in clinical context)
- 1:1 in-person in-service (resource- and time-consuming)
- Vendor-based collateral (generic; one-off websites; paper handouts)
- Email explanations
- Locally made breakroom posters
- Humid small group training during shift hand-off.

As a result...

Tracking viewing/participation is difficult; generally relying on paper documentation.

Processes are disconnected from actual practice.

Potential for large gaps of time between training and actual practice negatively affects retention.

Challenging to sustain the effect of the initial training over the long term.

Objectives:

- Ensure all ICU nurses (n=100) across three shifts:
  - are aware of the switch
  - understand differences between old and new EVDs to prevent operational errors
  - can refresh their training, on-demand, for low frequency usage
- Target State for Training:
  - Use a context-driven, microlearning solution to help frontline nurses adhere to the consistent delivery of best practices at the point of care.

Out of the 79 nurses who registered, nearly 70% of the nurses watched both videos.

Project Evaluation and Impact

Instead of having restricted opportunities to learn about the new EVDs, our nurses were able to access the critical information when they needed it, right on their own personal devices.

In addition to the contest videos, our nurses also took the opportunity to view Level 1 Rapid Infuser, Codman DirectLink, Manual ICP, and Defibrillator videos (along with other resources) at their own convenience, educating themselves during shift change, on breaks, on the floor, or from home.

Next Steps, Dissemination & Lessons Learned

Next Steps:

- Since completion of the pilot, we have created over ten microlearning videos, including Level 1 Rapid Infuser, Codman DirectLink, Manual ICP, and Defibrillator. Our staff nurses have since viewed videos (along with other resources) on-demand at their own convenience, educating themselves on the floor, during shift change, on breaks, or from home.

Dissemination:

- The just-in-time training has been formally adopted in the ICU and is scaling to additional units/specialties in BCHO. Another site for the training solution is live at BCSHF PICU, and specific video microlearning content is being shared between institutions.

Lessons Learned:

- High-quality videos can be created with personal mobile devices.
- Audio availability may be limited at the bedside; adding subtitles to videos can allow for an effective visual learning experience without sound.
- Workstation access was facilitated by addition of a shortcut icon.
- While nurses found desktop access doable, expansion to mobile access increased accessibility; even at the bedside, nurses watched the content without interrupting EHR workflows.

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