**Problem Definition**

- As Thomas Jefferson University Hospital (TJUH) system experiences a shift in surgical care, it faces a more critically ill patient population requiring complex surgical intervention. The Department of Anesthesiology must demonstrate agility in how learners are trained on equipment to ensure safe and timely patient care.
- Currently, no systemic database serves as a self-access, self-guided platform for both continuing education and/or onboarding.
- Lack of equipment training can negatively impact patient safety due to incorrect equipment use or settings.
- Compared to other patient safety incidents, incorrect use or settings are more likely to be associated with patient harm.

**Intervention (Cont.)**

- The team then developed training modules with essential, need-to-know information that can be absorbed in under 5 minutes.
  - Modules consisted of text, photographs, and videos, the modules contain critical information for advance learning (Figure 2).
  - These modules were then associated with print QR codes attached to individual equipment, allowing staff to scan and view them within seconds on any smartphone.
  - Upon development, modules were required training for onboarding new hires or training junior residents.

**Measurement and Results (Cont.)**

- The average change in confidence ratings with equipment was a 13-point increase (Figure 4).
- Survey respondents rating TJUH efforts at maintaining competencies with seldom used equipment as “poor or very poor” improved from 53% pre-intervention to 37% post-intervention.
- Comfortable finding information/learning how to operate seldom used equipment improved from 5.8 to 6.25 (weighted average, 0-10 scale).

**Next Steps and Lessons Learned**

- This project aims to develop an effective, sustainable equipment education platform based on performance improvement methodology that ultimately helps prepare anesthesia clinicians to consistently deliver safe and effective care for patients.
- The results of the post-implementation study indicate an improvement in familiarity, competency, and preparedness for seldom used critical equipment, which suggests major strides in achieving this goal.
- Building on this success, we will utilize this platform to train junior anesthesia residents prior to starting overnight call, as well as part of onboarding process for new hires.

**Measurement and Results**

- Survey results measured an improved awareness of equipment training process at TJUH (12% pre vs 62% post implementation) and increased knowledge of where to locate information (9% pre vs 58% post).
- Additionally, improvement in staff perception of TJUH’s maintaining competencies with anesthesia equipment, and an improvement in comfort with learning how to operate seldom used equipment.
- Prior to implementation 87% of survey respondents stated they were not aware of a process for training on seldom used pieces of anesthesia equipment, compared to 37% after QI implementation.
- 91% pre vs 43% post implementation did not know where the department provides information regarding seldom used equipment.
- Survey results also show a reduction in staff that have never practiced setting up seldom used equipment (eg: Belmont, 53% pre vs 33% post, disposable bronchoscope, 63% pre vs 46% post).

**Reference**


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**Figure 1: Post Survey Questionnaire**

**Figure 2: Example QR code and Training Module**

**Figure 3: Survey Demographics**

**Figure 4: High Confidence Rating (8-10) Pre- vs. Post-intervention**

**Figure 5: Rarely Used Equipment Practice Attempts Pre- vs. Post-intervention**