

A Pilot Study using a novel intravenous labeling system

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BACKGROUND

Nurses are at the sharp end of medication errors, and at least one-third of total medication errors are during the administration phase (Cloete, 2015).

Expert opinion and research reveal that having visual and haptic cues can increase accuracy in performing certain common tasks.

THE CHALLENGE

It is incumbent for the education team to build a process that facilitates safe and effective decision making and to recognize the limitations of fast, automatic thinking and compensate for its shortcomings in cognition.

THE APPROACH

In a quasi-experimental like design, newly hired RNs participated in a medication safety escape room alternatively using the novel labeling product or conventional labeling of IV tubing. The intervention approach used a standardized patented series of kitted labels using shape, text, texture and color.

PROJECT GOALS

The overall goal is to improve patient safety related to high alert medications, in particular heparin, and to develop a uniform process when labeling and identifying IV lines. For this project, the Central Education team implemented and evaluated the effectiveness of a novel intravenous labeling system in a simulated environment, a Medication Escape Room.



THE PROCESS

Data was collected over a period of three months during the first week of orientation for a population of newly employed RNs with varying levels of experiences, from the newly licensed to those with multiple years of experience.

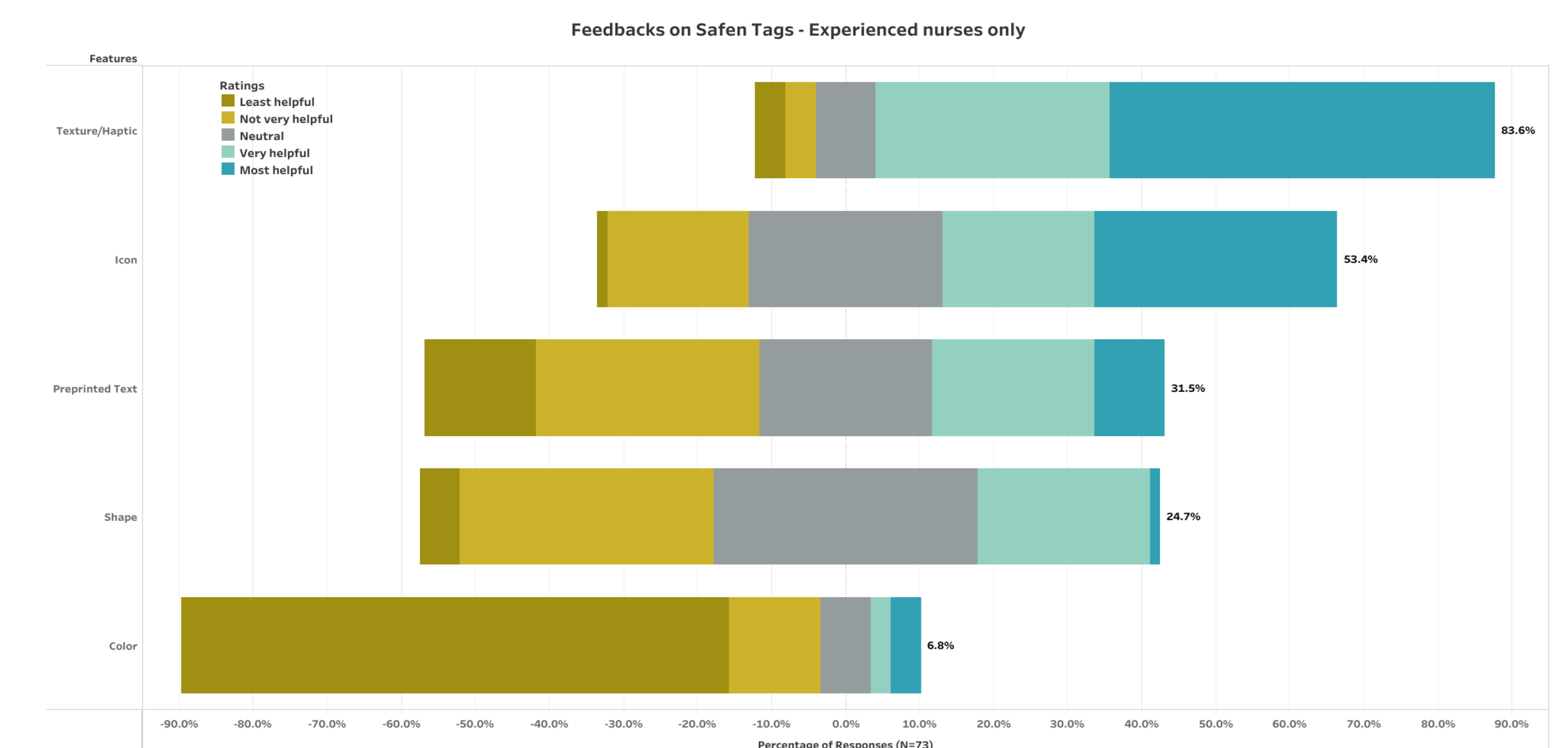
Nurses participating in the intervention escape room would either encounter IV tubing with conventional IV labeling or with the intervention novel label product. Staff were evaluated on their identification of and time to correct the deliberate medication error.

The hypotheses were that nurses participating in the intervention escape room:

- Will have fewer errors related to heparin administration
- Will recognize and report the embedded medication errors earlier in the scenario

RESULTS

Nurses participating in the intervention escape room had fewer IV related errors, recognized and reported the embedded medication errors earlier in the scenario than those participating in the conventional escape room.



Nurses participating in the intervention room also provided anonymous feedback via survey. Staff perceived the unique IV labeling system as helpful in facilitating medical error identification, with the haptic and symbol features noted as most useful.

LESSONS LEARNED

While there is much emphasis on the improvement of IV infusion safety with high risk medications, there is little published evidence on strategies associated with novel approaches to labeling tubing. Future research should focus on testing interventions to support improved labeling for IV tubing when infusing high risk medications.