

Barcoding Technology: A Survey to Identify Workarounds At The Johns Hopkins Hospital

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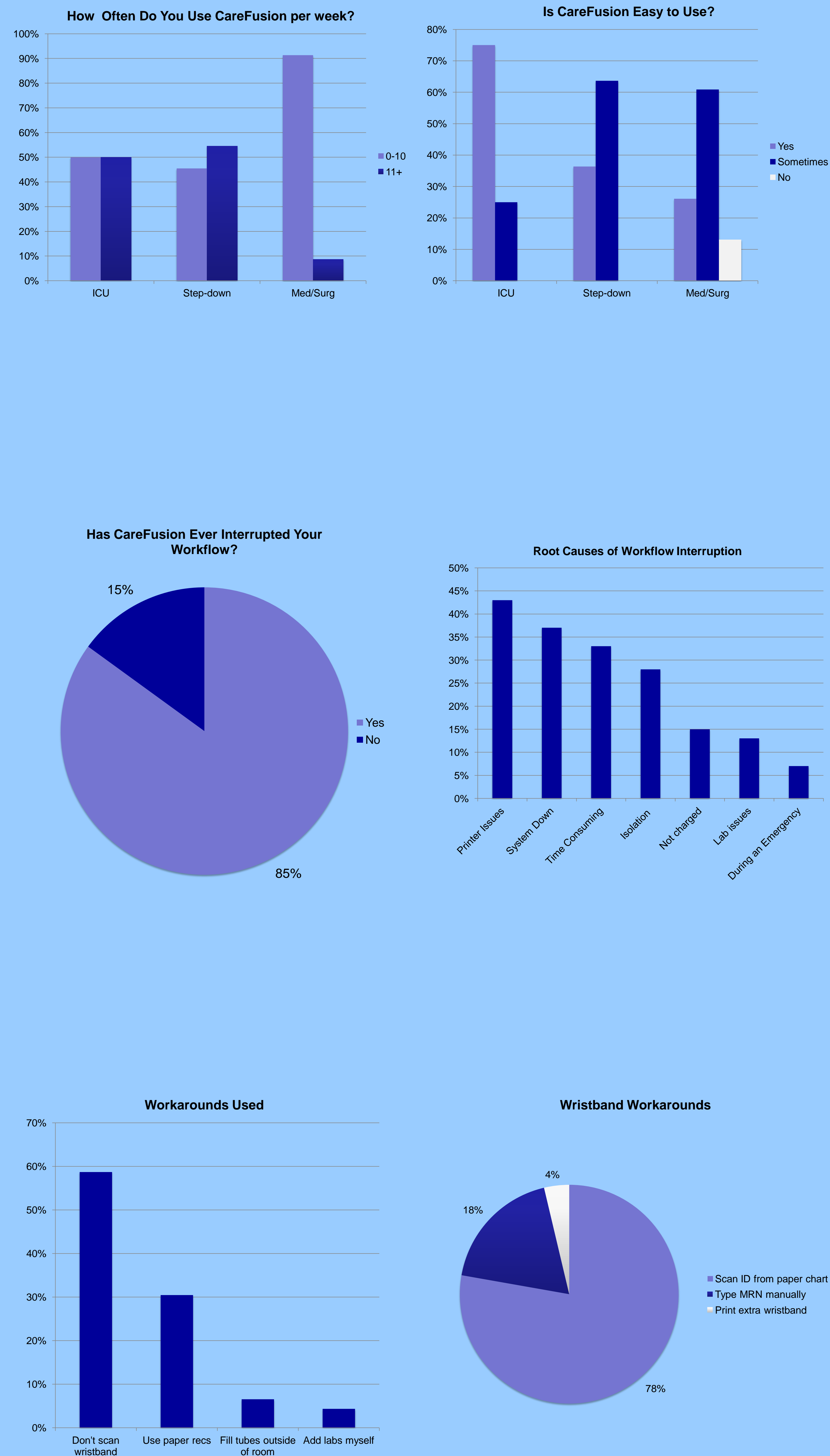
BACKGROUND

- In the near future, medication barcoding technology will be used across Johns Hopkins Hospital (JHH) and all clinical affiliates.
- Evidence-based research (EBR) affirms the empirical relationship between medication barcoding and a decrease in adverse medication errors, which can be at best, harmless, and at worst, fatal.
- Due to the natural intuitiveness of humankind, the use of barcoding technology has birth unintended consequences called barcoding workarounds, which increasingly contribute to adverse medication errors.
- Workarounds are methods of tailoring the barcoding process to better integrate with one's workflow. Some workaround processes include: omitting steps, performing steps out of sequence and performing unauthorized steps.
- Currently, a barcoding technology called Carefusion, is being used at JHH, to collect laboratory, mostly blood, samples.
- Six units at JHH were observed and/or surveyed on their use of Carefusion. Surveys asked staff which workarounds they used.
- In an effort to mitigate against future potential medication barcoding workarounds, we have prospectively researched the current workarounds with Carefusion.

METHODS

- An extensive literature review was conducted on medication and laboratory barcoding workarounds
- Meetings with workaround experts to gain insight on patient safety goals at JHH
- Survey tool created to administer during unit observations; Observations and surveys were completed on eight units at JHH (2 ICUs, 2 step-down units, and 2 medical/surgical units)
- Data from surveys were analyzed and themes emerged.

RESULTS



LIMITATIONS

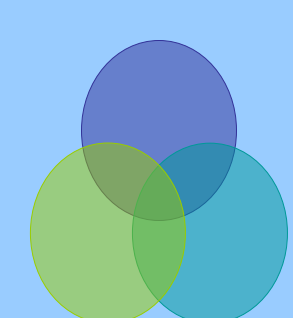
- We only surveyed eight units at JHH, however, there are 40+ units at JHH that use CareFusion. Thus, our sample may not be representative of all clinical units.
- We used two different survey tools. The initial survey administered to the first five units required write-in answers. After noticing a pattern of similar responses, a multiple choice version of the survey was administered to the last three units. With each question there was an option to write in an alternate response, however, the new multiple choice format may have limited additional responses outside of the multiple choices.

CONCLUSIONS

- Workarounds occur when barcoding technology gets in the way of workflow. Therefore, when implementing the new medication barcoding system, end-users should be solicited about usability & workflow integration.
- Fewer workarounds were reported in the ICUs where all barcoding materials are housed in patient rooms. Therefore, the ICUs practice should be the barcoding proxy and hospital standard.
- The most common reported workarounds was failure to scan patient wrist band. Therefore, this should be further investigated to prevent this practice in the future.

IMPLICATIONS

- Identifying the workarounds used within a hospital for one type of barcoding process can inform the implementation of future barcoding processes.
- Leadership should align workflow with the technology being used by clinical staff.



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