“The redesigned labels helped participants correctly select hetastarch from the cart, thus preventing some potentially catastrophic medication errors from reaching the simulated patient” Estock et al (2015).

Reference:

Estock, J.L., Murray, A.W., Mizah, M.T., Mangione, M.P., Goode, J.S. Jr. and Eibling, D.E. (2015) Label Design Affects Medication Safety in an Operating Room Crisis: A Controlled Simulation Study. Journal of Patient Safety. March 7th. .

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Abstract:

Objective: Several factors contribute to medication errors in clinical practice settings, including the design of medication labels. The objective of this study was to quantify the impact of label design on medication safety in a realistic, high-stress clinical situation.

Methods: Ninety-six anesthesia trainee participants were randomly assigned to either the redesigned or the current label condition. Participants were blinded to the study’s focus on medication label design and their assigned label condition. Each participant was the sole anesthesia provider in a simulated operating room scenario involving an unexpected vascular injury. The surgeon asked the participant to administer hetastarch to the simulated patient because of hemodynamic instability. The fluid drawer of the anesthesia cart contained three 500-ml intravenous bags of hetastarch and one 500-ml intravenous bag of lidocaine. We hypothesized that redesigned labels would help participants correctly select hetastarch from the cart. If the participants incorrectly selected lidocaine from the cart, we hypothesized that the redesigned labels would help participants detect the lidocaine before administration.

Results: The percentage of participants who correctly selected hetastarch from the cart was significantly higher for the redesigned labels than the current labels (63% versus 40%; odds ratio, 2.61 [95% confidence interval, 1.1-6.1]; P = 0.03). Of the participants who incorrectly selected lidocaine from the cart, the percentage who detected the lidocaine before

administration did not differ by label condition.

Conclusions: The redesigned labels helped participants correctly select hetastarch from the cart, thus preventing some potentially catastrophic medication errors from reaching the simulated patient.

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