Goal Zero: Eliminating Mislabeled Specimens in the Emergency Department

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Purpose:

This emergency department (ED) noticed an increase in misidentified laboratory specimens noted to be the highest in our hospital region. Misidentified specimens can result in misdiagnosis, medication errors and repeat laboratory (Lab) specimen collection with a direct impact on patient comfort, nurse workload and increased cost can result. This project was developed as a quality improvement project aimed at reducing misidentified laboratory specimens and promote patient safety.

Design:

This change was implemented as a quality improvement project to eliminate misidentified specimens. After a literature review, we obtained a quote, we presented the project to senior leadership and finance for approval. Once approved interdisciplinary meetings with lab leadership including our region and other regions within our system took place.

Setting:

The ED is a 60,000-visit community teaching hospital that has Physicians, Physician Residents, Advanced Practice Providers, RN, LPNs and Emergency Care associates.

Participants/Subjects:

Participation included all ED clinical staff, ED leadership, and laboratory leadership.

Methods:

It was identified that this ED had the highest number of misidentified lab specimens in the hospital region. The previous multistep process was to print all patient labels to a printer in the nurse's station, take the labels to the bedside, and label specimens and send to lab. This process led to error. With this new technology the patient's armband, lab specimen, and collector is scanned at the bedside ensuring correct identification of lab specimens.

Finance and Senior Leadership approved the purchase of the bedside scanner. Emergency Department staff volunteered to be superusers and took part in train the trainer sessions. ED clinical staff training occurred over a two-week period, February 12, 2018, through February 24, 2018. The implementation went live on February 28, 2018 and was supported by department leadership, laboratory services and unit super users.

Results/Outcomes:

In 2016 the ED had 25 mislabeled specimens, in 2017 there were 22 mislabeled specimens. Six misidentified specimens occurred in 2018 prior to go-live. Three misidentified specimens occurred since go-live from February 2018-January 2020. Other ED's in the region are now implementing the bedside scanners after seeing our success.

Implications:

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The device is a handheld electronic on demand used at the patient bedside to scan the patient armband, staff badge, and specimen. Labels print at the bedside decreasing the risk of misidentification. This innovation eliminated the multistep process of printing labs at the nurses' station, identifying the patient, placing labs on the specimen, and then tubing the specimen to the lab. This allows the ED staff to focus on patient safety and comfort. The scanners were implemented in the 2 remaining ED within the healthcare organization.

1. Reference 1

U.S Food and Drug Administration. Bar code label requirements for human drug product and biological products: Final Rule, 2004.

2. Reference 2

Valenstein, P.N., Raab, S.S., & Walsh, M.K. (2006). Identification errors involving clinical laboratories: a college of American pathologists q-probe study of patient and specimen identification errors at 120 institutions. Archives of Pathology and Laboratory Medicine. 130(8), 1106-1113.

3. Reference 3

Zebra Technologies. (2017). Benefit from bedside specimen labeling. White Paper. Retrieved from http://www.findwhitepapers.com/content65152