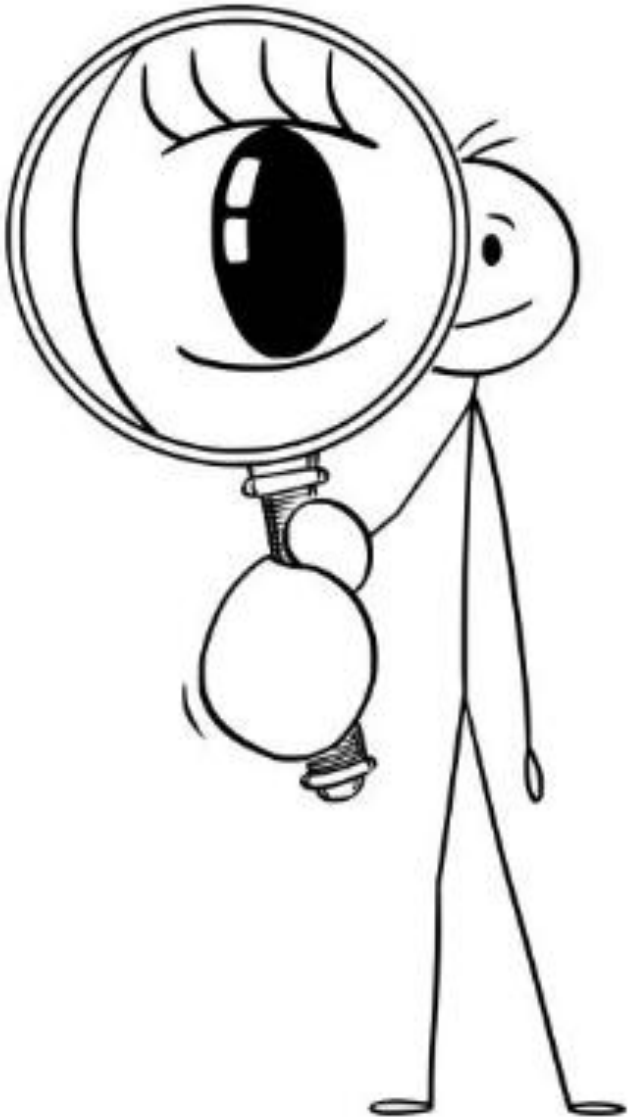

Who's Blood Is It?

A Transfusion Service Mystery.

Carla Dzurko MT(ASCP)

North Kansas City Hospital

About Me!

Objectives

Apply Specimen collection processes following AABB standards.

Describe The Cause Map process for root cause analysis.

Case study details

A 30 y/o female presents to the L/D unit in active labor -quicky progressing. She is not cooperative. Prenatal care status is unknown.

Routine admission labs, CBC and TS are collected with IV start, labeled, and sent to the laboratory. For patient safety, the blood bank requires a 2nd collector witness for sample identification.

The TS sample was rejected upon receipt due to missing 2nd collector witness information missing. The RN states the patient is a extremely difficult stick. Approx 1 hour later, prior to recollecting the sample, the RN calls blood bank and requests assistance with label printing for Positive Patient Identification (PPID) electronic scanning.

A full 6.0 mL tube arrives < 5 minutes. The technologists notes how quickly the sample was received from collection time. She confirms (per computer documentation) the PPID scanning was performed correctly.

The ABORh had a questionable result with solid phase testing. The type was repeated using tube method and was a little sticky. The cell suspension was washed one time prior to testing again. The result of the patient's ABORh was determined to be AB+.

ABORh confirmation was ordered for collection by Laboratory phlebotomist . The specimen collection was determined acceptable. Testing performed using solid phase and found to be B+

Due to discrepancy, a 2nd Laboratory phlebotomist was asked to collect a new TS sample. That specimen was found to be B+ as well. The blood bank began investigating source of error. The CBC specimen from the initial collection also typed B+.

Two AB + patients are in L/D.

Patient error

AB +

AB + B +

AB +

Investigation

Are extra samples collected and held in your area?

Was the electronic scanning done in the proper intervals?

Was this sample labeled in the presence of the patient?

Patient Error

AB +

C+,c+,E+,e+

AB +

C+,c+,E-,e+

B +

AB +

C+,c+,E-,e+

Patient Error

AB +

C+,c+,E+,e+

B +

C+,c+,E-,e+

AB +

C+,c+,E-,e+

AB +

C-,c+,E-,e+

C-

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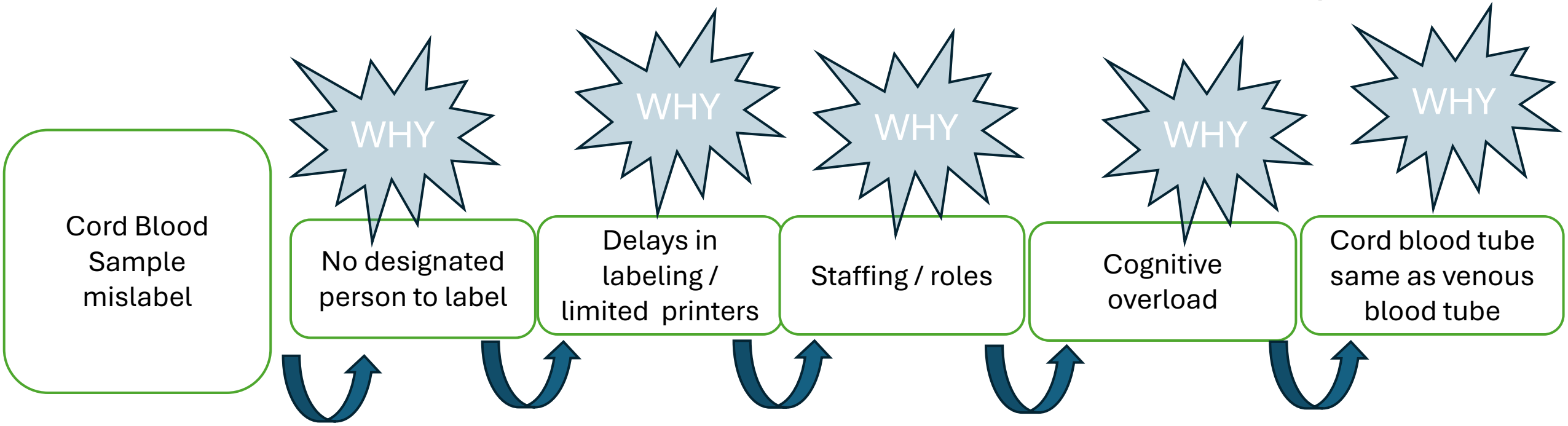
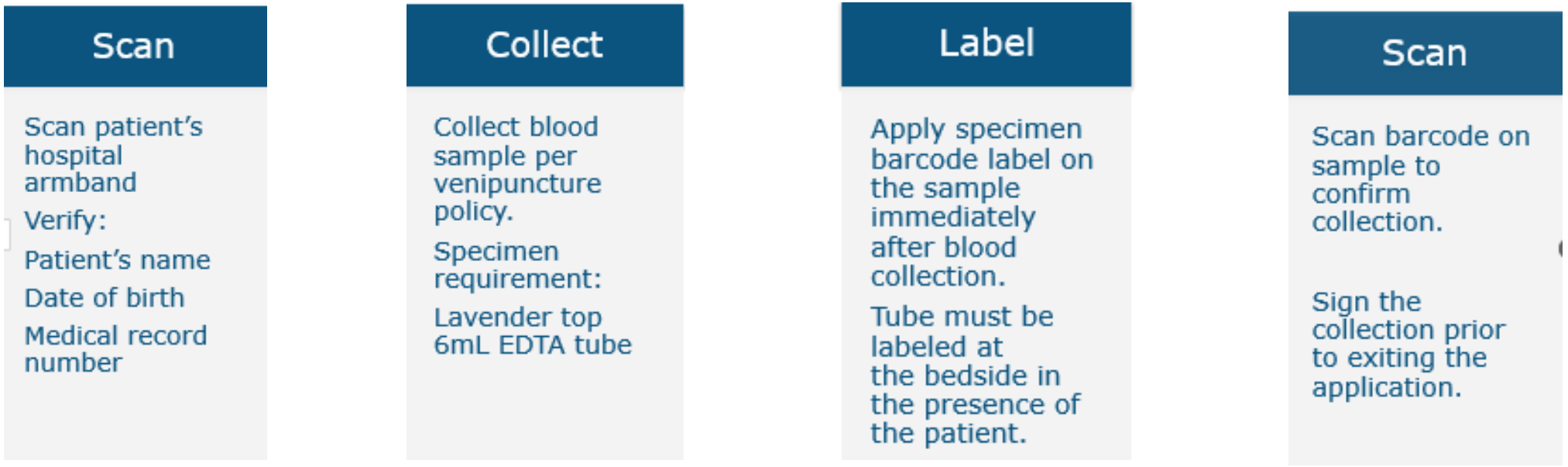
Cause Map™ The 5-Whys For Specimen Mislabeling Event

The 5-Why approach, created by Sakichi Toyoda (1867 – 1930), the founder of Toyota, is a simple way to begin any investigation.

The *Why* questions then continue, passing through five, until enough *Why* questions have been asked (and answered) to sufficiently explain the incident.

Cause Map™ The 5-Whys For Specimen Mislabeling Event





Positive Patient Identification (PPID)

Specimen Collection

November 2023, NKCH implemented an electronic patient identification system.

The system involves prompts to carry out key steps in the process. Electronic confirmation of the patient via the scanning of the patient's identification band, specimen collection, and blood components.

Electronic scanning systems, if used properly, decrease patient identification errors.

Future State For Cord Blood Labeling

Implement a pink top EDTA vacutainer tube exclusive for cord blood collection.

Designate workflow assignment for specimen labeling to avoid unlabeled tubes due to delay.

Replacing centralized label printer with portable devices brought to the patient's bedside.

Create a consistent process for cord blood collection to fit c section and routine deliveries.

Mislabeled Specimen Trends

Transfusion is a multistep, multidisciplinary process which includes pre-transfusion specimen collection and processing.

The specimen labeling error rate at NKCH has remained unchanged despite multiple interventions (education, training, competency testing and guidelines). The errors are distributed among all staff who collect pre-transfusion blood specimens house wide.

Common Error Themes 2023-2024

- Missing collection information/ electronic scanning overrides or failures
- Blood Bank ID bands missing/ not used
- Unlabeled tubes
- The Type & screen sample and the ABORh confirmation cannot be collected by the same individual.

The college of American Pathologists (CAP) estimate mislabeling errors cost approximately $208 per specimen recollection. [3]

Repeat testing, supplies, and staffing are the contributors to the cost determination.

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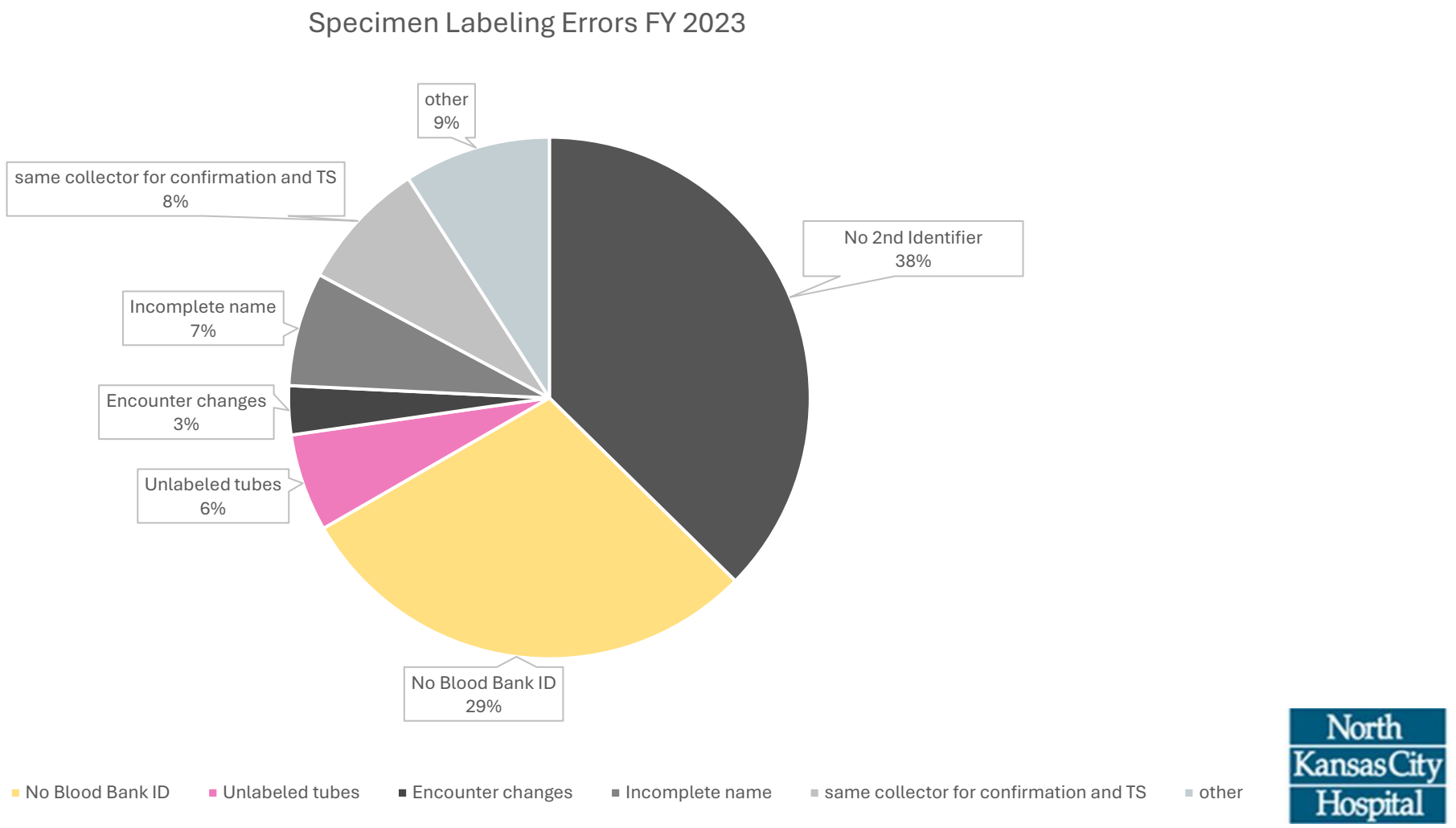
Specimen Labeling Errors FY 2023



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Specimen Labeling Errors FY 2023

Total errors

355

Estimated cost $73,840

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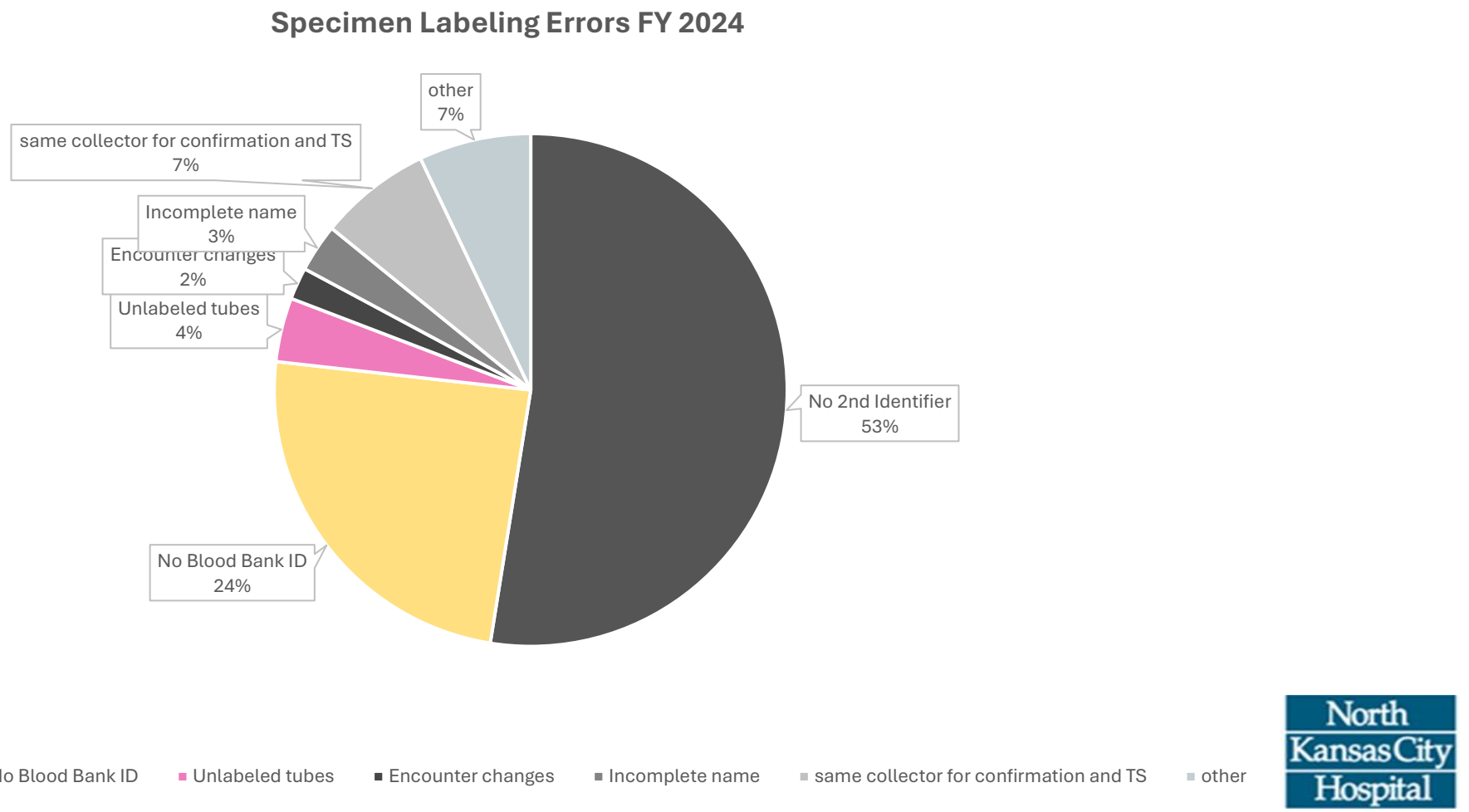
Specimen Labeling Errors FY 2024



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Specimen Labeling Errors FY 2023

Total errors

401

Estimated cost $83,408

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Risk Assessment -Discontinue Blood Bank Identification Band

Proposal to discontinue the Blood Bank Identification band.

Not required by regulatory agencies.

Source of “cognitive overload”

Contributed to 27% of specimen rejections due to mislabeling.

ABORh confirmation

100 errors
BBID cost $8,400 cost savings: $29,200

Recommendations

Streamline the specimen collection and transfusion process while maintaining crucial checks and balances for patient identification.	The use of at least two patient identifiers for specimen collection and administration of blood products. (NKCH defines patient identifiers as name and date of birth).
	Proper use of electronic scanning for positive patient / specimen identification, and labeling of all samples in the presence of the patient. Additional label printers.
	Following TRM regulatory standard 5.14.1, the Transfusion Service confirms patient's blood type to eliminate wrong blood in tube errors. Recommendation for compliance: Adhere to the existing specimen collection requirement of a different individual to perform collection of ABORh confirmation.[3]
	All staff should be aware of the steps of the patient identification process and the rationale for it and know how to revert to a manual system of specimen labeling and verification if the need arises.

- Additional label printers in critical areas to mitigate specimen labeling errors.
- Implement a new EDTA test tube with a different designated colored stopper exclusive for cord blood collection. The current purple to EDTA tube will remain the required collection container for all other transfusion services testing.

Sources

- 1. https://blog.thinkreliability.com/author/mark-galley

- 2. National Patient Safety Goals® Effective January 2024 for the Hospital Program (NPSG.01.03.01) pg:1

- 3. Kaufman RM, Dinh A, Cohn CS, Fung MK, Gorlin J
Electronic patient identification for sample labeling reduces wrong blood in tube errors. Transfusion. 2019 Mar;59(3):972-980. doi: 10.1111/trf.15102. Epub 2018 Dec 14. PMID: 30549289.

- 4.. "AABB Standards for Blood Banks and Transfusion Services, 33rd edition. (2022, April 1) 5.11.2.1, 5.14.5

- 5. Tran NK, Liu Y. Pre-analytical pitfalls: Missing and mislabeled specimens. PSNet [internet]. Rockville (MD): Agency for Healthcare Research and Quality, US Department of Health and Human Services. 2020.