Reducing Mislabeled and Unlabeled Specimens In Acuity Adaptable Units
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Purpose

• To reduce mislabeled and unlabeled core lab specimens and microbiology specimens in the Acuity Adaptable Units at a safety-net hospital

Learning Objectives

• Discuss the significance of mislabeled and unlabeled specimens
• Discuss the interventions utilized to decrease mislabeled and unlabeled specimens

Background

• The Acuity Adaptable Units are located over three floors with 144 beds
• The project timeframe was January to May 2016
• The project timeframe was based on the student’s clinical timeframe and the need to prepare for the upcoming EPIC electronic health record implementation.
• Hospital goal is zero mislabeled/unlabeled specimens
• In 2015, there was an average of 40 mislabeled/unlabeled specimens per month
Cost

• The average cost of a mislabeled/unlabeled specimen is $712.00. This estimate does not include immeasurable cost such as patient anxiety, discomfort and delays or errors in diagnosis and treatment (Khan et al.)
• For a critically ill patient, the cost can be up to $2,700 (Phlebotomy Today)
• The cost is estimated at 280,000 per million specimens (College of American Pathologist)

Background

• Barcode scanning during specimen collection is a proven strategy in the literature to reduce mislabeled/unlabeled specimens.
• This project was implemented prior to barcode scanning of specimens.
• At the time of the project, the hospital was unable to acquire such technology due to problematic computer interfacing.

Significance

• Correct specimen labeling specimens is a critical aspect of patient safety.
• The outcomes of mislabeled/unlabeled specimens has been well documented.
• Mislabeled and unlabeled specimens may potentially cause delays in diagnosis and treatment, misdiagnosis, missed or inappropriate therapy and treatment, iatrogenic blood loss, increased cost and length of hospital stay, and may result in serious harm, including death.
• Replacing specimens leads to patient discomfort, inconvenience and dissatisfaction.
Significance

- 2017 National Patient Safety Goal 01.01.01 is to identify patients correctly. Use at least two ways to identify patients.
- Misidentification of patients is an avoidable error.
- Hospital policy states to use two patient identifiers during specimen collection, and to label the specimens in the presence of the patient.
- Collection of specimens from the wrong patient, inappropriate labeling of the specimen or lack of labeling may occur if proper procedure is not followed.

Statistics

- Specimen identification errors have been reported to occur at rates of up to 5% (Wager et al.)
- Adverse events result from 1/18 specimens with patient identification errors equating to more than 160,000 adverse events annually (Valenstein et al.)
- Over 70% of all information used by a clinician to diagnose and treat a patient comes from the laboratory (Garber, C.) and specimen labeling is one of the most critical areas for misidentification (Pennsylvania Patient Safety Authority)
- 34-58% of total lab errors involve mislabeled specimens, and misidentification accounted for more laboratory errors than any other source (Bonini et al.)

Team Members

- Clinical Nurse Specialist
- MSN student (also a staff nurse)
- Two Clinical Managers
- Staff Nurse
- PhD prepared nursing faculty
- Laboratory Department staff

COLLABORATED TO IMPLEMENT STRATEGIES FOR IMPROVEMENT
Overview of Interventions
• Team-designed reminder checklist poster and sign
• Team-designed educational poster outlining proper procedure
• Posting monthly results with timeline
• Posting compelling stories about dangers of labeling errors
• Developing Unit Champions
• Roving In-services

Overview of Interventions
• Bathroom read of "always and never" practices for blood draw procedure
• Consulting with the lab
• Real-time notification by lab personnel of mislabeled/unlabeled specimens to charge nurse with timely follow up/root cause analysis and 1:1 instruction
• Making a co-signing option for specimen validation by another staff before sending to the lab
• Journal Club reinforcement

Reminder Checklist Poster
Created reminder poster by all pneumatic tube stations

BEFORE SENDING SPECIMENS TO THE LAB CHECK:
✓ ARE ALL SPECIMENS LABELED?
✓ DO LABELS MATCH REQUISITIONS?
✓ ARE REQUISITIONS SIGNED, DATED AND TIMED?
Reminder Sign

**DO ALL LABELS AND ALL REQS MATCH**

Educational Poster Content

1. Take lab requisitions and labels to room
2. Check armband and confirm 2 patient identifiers
3. Ensure labels and requisitions match (and match the armband)
4. Label specimens and complete lab requisitions (sign, date and time) in front of patient
5. Double check labels and requisitions match before bagging
6. Place in biohazard bag and send specimens to lab

Always and Never

- Always take the label and requisition to the bedside
- Always match the label and requisition to the patient’s ID band
- Always use 2 patient identifiers
- Always draw and label at the bedside
- Never leave the bedside before labeling the tube/specimen
- Never collect specimen from a patient without ID band
- Never hand specimen over to another person to label
- Never forget to do the final check before sending to lab

Right Label, Right Patient, Right Requisition, Right Specimen
IMPORTANT NEWS!!

NOTE: This is a true story in a US hospital.

LAB RESULT: John Smith
Urine Pregnancy Test: Positive

How can this be?
This may sound funny
but it is a serious matter

Mislabeled/Unlabeled Specimen:
An Important Safety Concern from Failure to use Two Patient Identifiers

Patient in A bed and B bed both had blood drawn. Tubes were mislabeled. Patient in A bed's results were actually B bed's results.
Patient in A bed did not receive chemotherapy when indicated. Patient in B bed was misdiagnosed.

Mislabeled/Unlabeled Specimen:
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- Two patients have the same last name
- One of them was having chest pain
- Nurse asked co-worker to draw labs
- Labs drawn from the other patient with the same last name.

RESULT: Troponin INCREASED

An hour later the patient was still having chest pain.
Tropinin redrawn RESULT: CRITICAL
The patient had a serious delay in care and treatment of an acute myocardial infarction.
IMPORTANT NEWS!!!

NOTE: This is a true story

A patient was told by her physician that she had breast cancer and underwent a partial mastectomy. The treatment was based on incorrect lab results. The patient never had cancer. This led to a $3 million lawsuit.

Mislabeled/Unlabeled Specimens
An Important Safety Concern from Failure to use Two Patient Identifiers
Results

• In 2015, the average monthly mislabeled/unlabeled specimens was 40 a month on the Acuity Adaptable Units.
• During the project timeframe January 2016 to May 2016, the average monthly mislabeled/unlabeled specimens was 28 a month on the Acuity Adaptable Units.
• This was a 30% reduction and a cost avoidance of $8,544.00.

Conclusions

• The team members collaborated effectively.
• The multifaceted strategy approach was successful in reducing mislabeled/unlabeled specimens on the Acuity Adaptable Units.
Implications

• Improving compliance with specimen procedures is a system-level quality improvement initiative appropriate for clinical nurse specialist practice.

Final Take Away

“ANY IS TOO MANY”

Source: Children's Hospitals and Clinics of Minnesota

References

References


• Ning et al. (2016). Reduction in hospital-wide clinical laboratory specimen identification errors following process interventions: A 10 year retrospective observational study. PLOS One DOI:10.1371/journal.pone.0160821


