Reducing Mislabeled and Unlabeled Specimens In Acuity Adaptable Units at Eskenazi Health

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Disclosures

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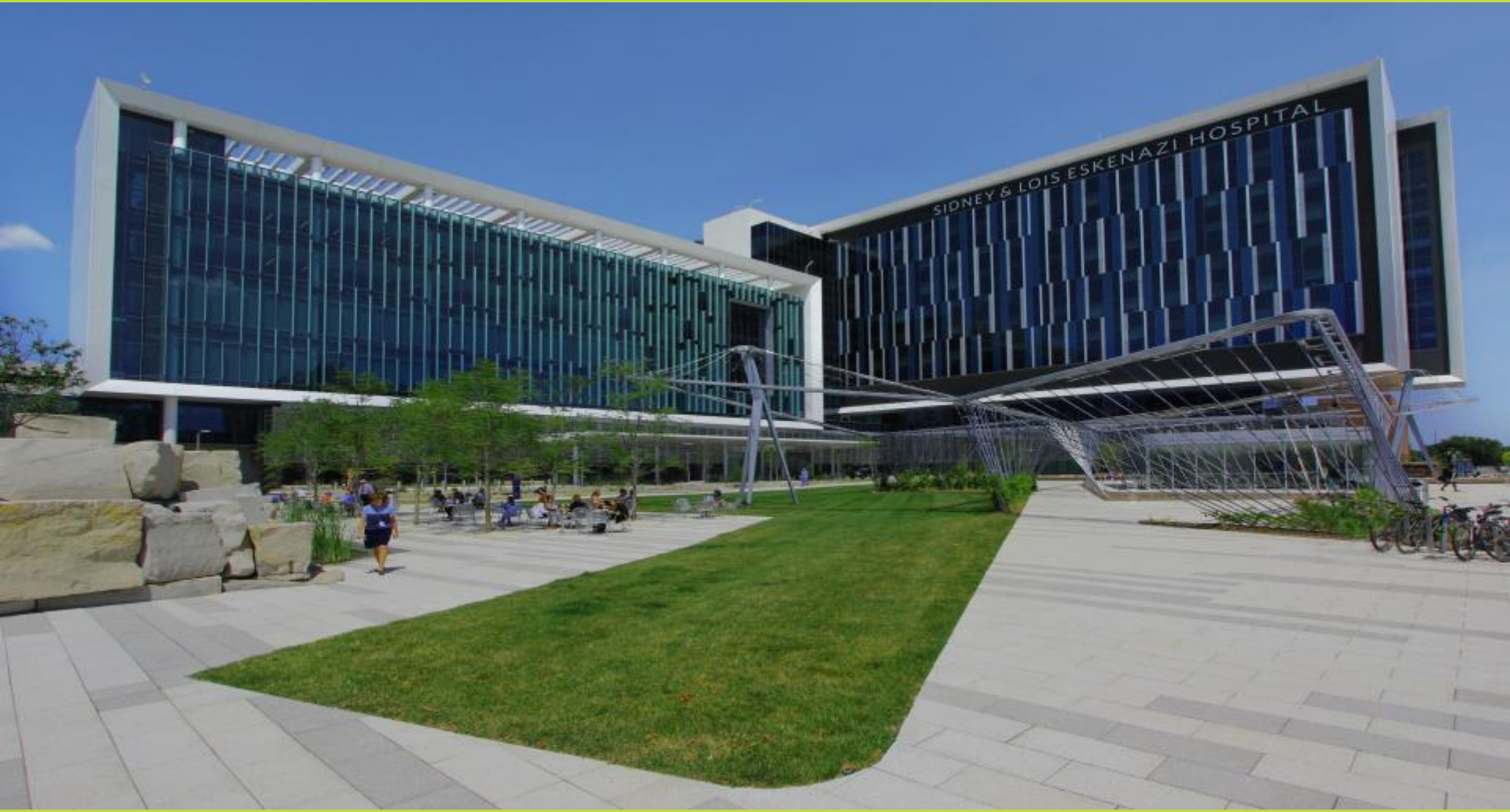
Learning Objectives

- Discuss the significance of mislabeled and unlabeled specimens

- Discuss the interventions utilized to decrease mislabeled and unlabeled specimens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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

Background

- The Acuity Adaptable Units are located over three floors with 144 beds
- The project timeframe was January to May. The project time frame 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
- Prior to the project, there was an average of 40 mislabeled/unlabeled specimens per month

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.

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)

Significance

- Correct specimen labeling 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% (Wagar et al.)
- Adverse events result from 1/18 specimens with patient identification errors equating to more than 160,00 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 mis-identification 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

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
5. Place in biohazard bag and send specimens to lab

Reminder Sign

DO ALL LABELS

AND ALL

REQS MATCH

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?**

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 Specimens
An Important Safety Concern from Failure
to use Two Patient Identifiers

IMPORTANT NEWS!!!

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

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 Specimens
An Important Safety Concern from Failure to use Two Patient Identifiers

IMPORTANT NEWS!!!

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

- Two patient 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 WNL.
- An hour later the patient was still having chest pain.
- Troponin redrawn RESULT: CRITICAL
- Pt 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 lead to a 3 million $ lawsuit.

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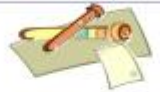
IMPORTANT NEWS!!!

NOTE: This is a true story



A patient had sickle cell anemia. However, failure to properly diagnose and treat sickle cell anemia occurred due to blood draw error (using another patient's results). This resulted in iron overload and kidney failure in the patient. Kidney, liver, and heart damage were alleged in the lawsuit.

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

IMPORTANT NEWS!!!

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

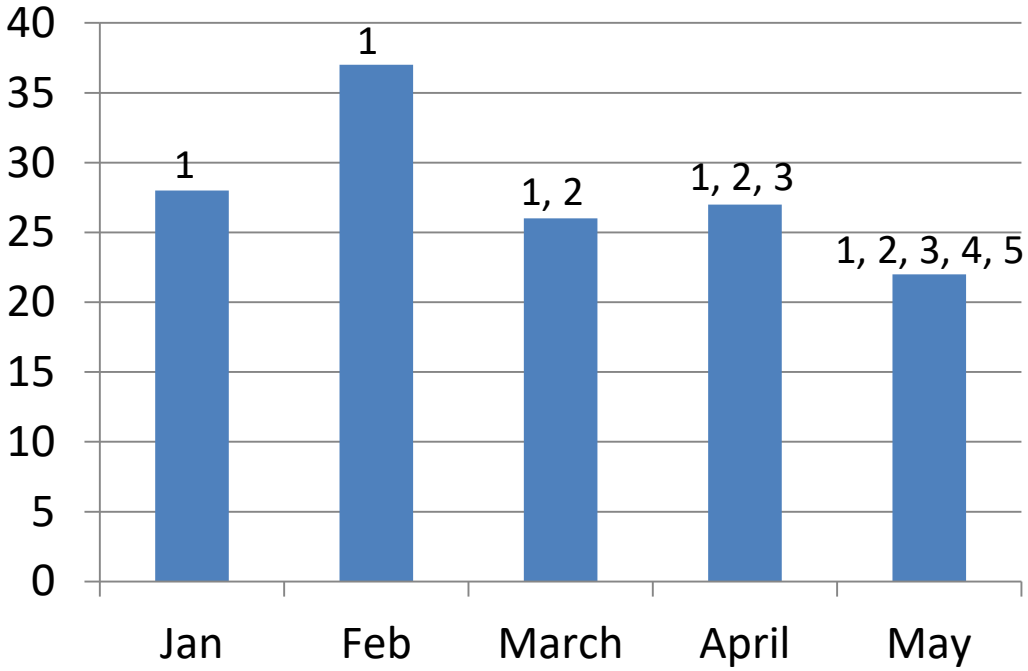
A 54 year old man was admitted to the hospital for elective knee surgery. Labs were drawn on the patient but no one was available to co-sign the T & C. Later they asked another nurse to co-sign the specimen who didn't witness the blood draw.

A lab tech found a large Hgbn change in another patient on the same floor. It was discovered all the lab specimens on the 54 year old man were mislabeled. Luckily no harm occurred because the mistake was discovered.

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

Number of Rejected Mislabeled Unlabeled Specimens

(prior to project, monthly average 40)



1. Results and compelling story posted monthly, developed unit champions and consulted with lab

2. Mislabeled and unlabeled specimens called to charge nurse, 1:1 education with nurses and made co-signing option available

3. Educational posters and reminder signs

4. Bathroom read of “always and never” practices and roving in-services

5. Journal club

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

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