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Moving Outside the Lab: Improved Productivity and Safety for Specimen Collection

Case Studies

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Path to the heart of healthcare

Agenda

- Introduction
  - The pre-analytical phase
- Case Studies
  - Phlebotomy
  - Nursing
  - Mixed
- Summary

Specimen Lifecycle

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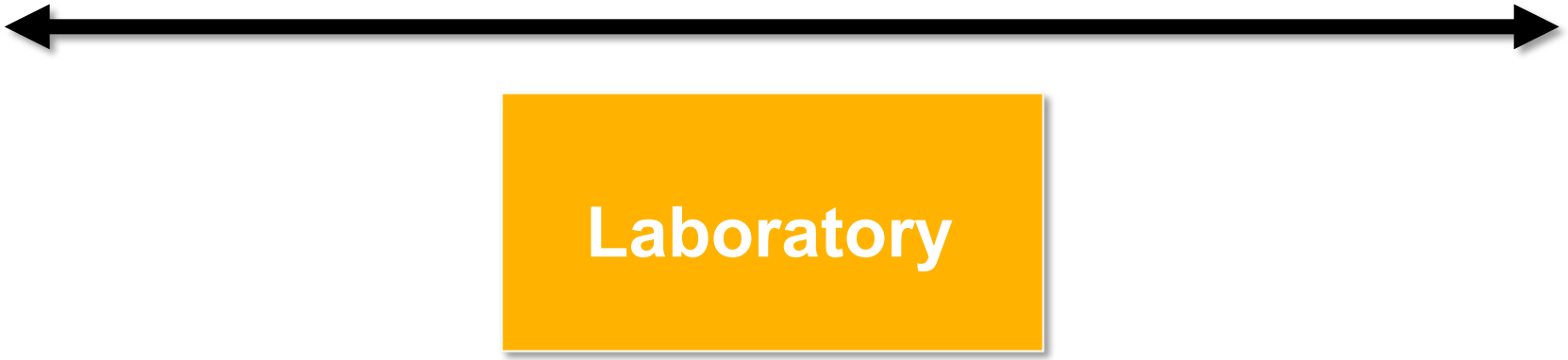
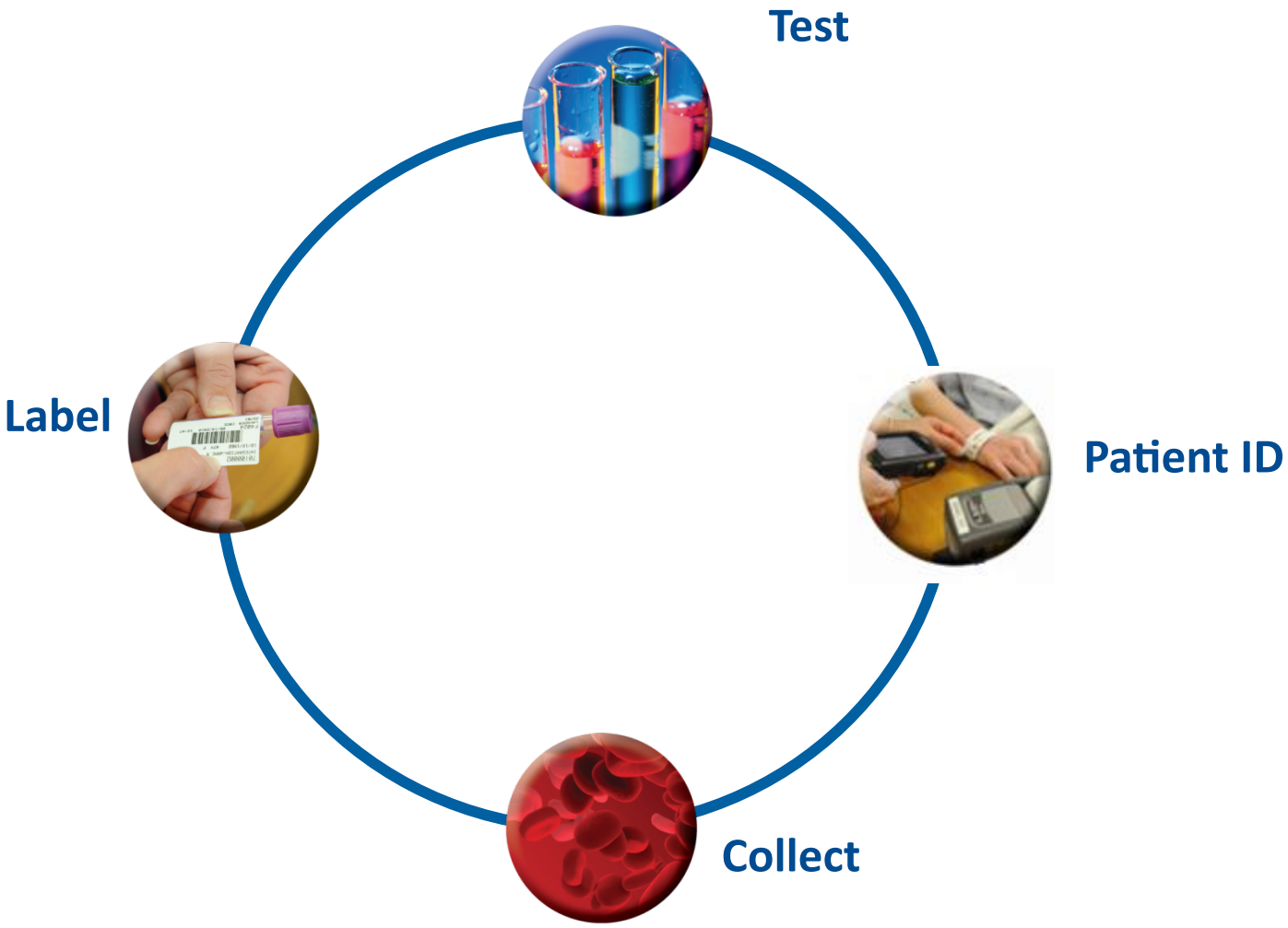
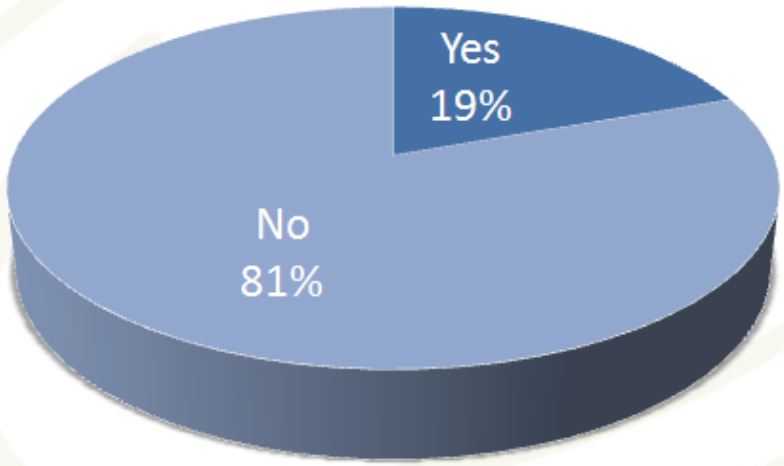
Beyond the four walls of the lab





1992 2012 CHiME
20 Years Serving Healthcare CIOs

Has your hospital incurred an adverse event due to a patient mismatch in the last year?



**For this survey's purposes, "adverse" is defined as: a negative consequence of care that results in unintended injury or illness.

Pre-analytical phase

- PPID and Safety: NPSG 01.01.01

  (i) Use at least two patient identifiers when providing care, treatment and services

  (ii) Label containers used for blood and other specimens in the presence of the patient

  – Applies to: Ambulatory, Behavioral Health Care, Critical Access Hospital, Home Care, Hospital, Lab, Long Term Care, Office-Based Surgery

- Bedside lab-ready labeling

Case Study 1 – Phlebotomy - Before

Background:

- 600 bed hospital
- Nationally ranked
- 30,000 admissions per year

Problem:

- Fast turnover of phlebotomists
- Scheduling needed
- TJC PPID coincided with unfavorable internal quality report
  - 7 in 1,000 (average for CP is .92 in 1,000*) mislabeled specimens
  - In addition to mislabeled tubes:
    - tubes arriving without requisition
    - requisition arriving without the tube
    - tubes that were not labeled

* Elizabeth A. Wagar, Ana K. Stankovic, Stephen Raab, Raouf E. Nakhleh and Molly K. Walsh (*2008*) Specimen Labeling Errors: A Q-Probes Analysis of 147 Clinical Laboratories. Archives of Pathology & Laboratory Medicine: October 2008, Vol. 132, No. 10, pp. 1617-1622.

Case Study 1 – Phlebotomy - After

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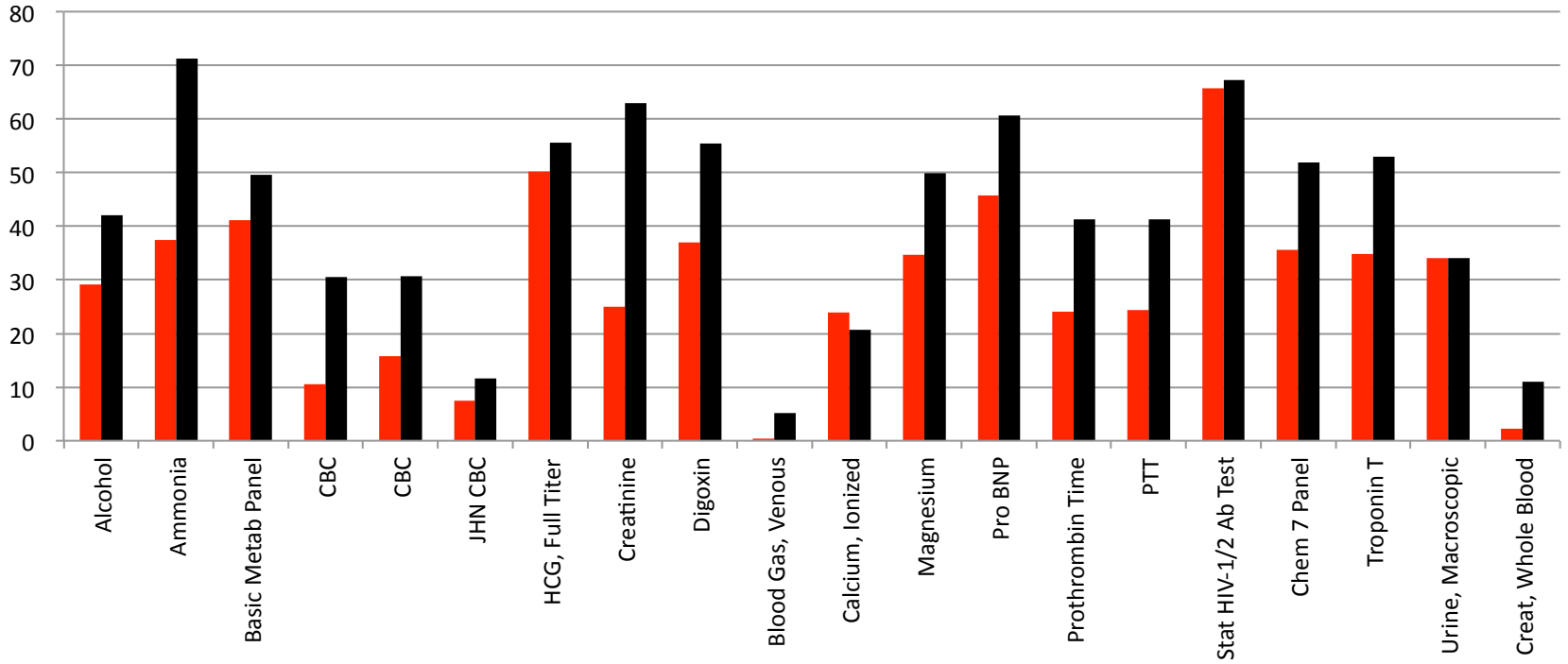
Solution

- Technology?
  - Yes, IF you have
    - Good **Connectivity**, appropriate firmware, good choice of hardware …
- Partnerships
- Training

Result and lessons learned

- Hardware – choose carefully
- Train the trainer
- 2 – 4 errors per month
- Next steps
  - Root cause
  - Rainbow in the ED

AVERAGE TAT IN MINUTES



Case Study 2 – Nursing - Before

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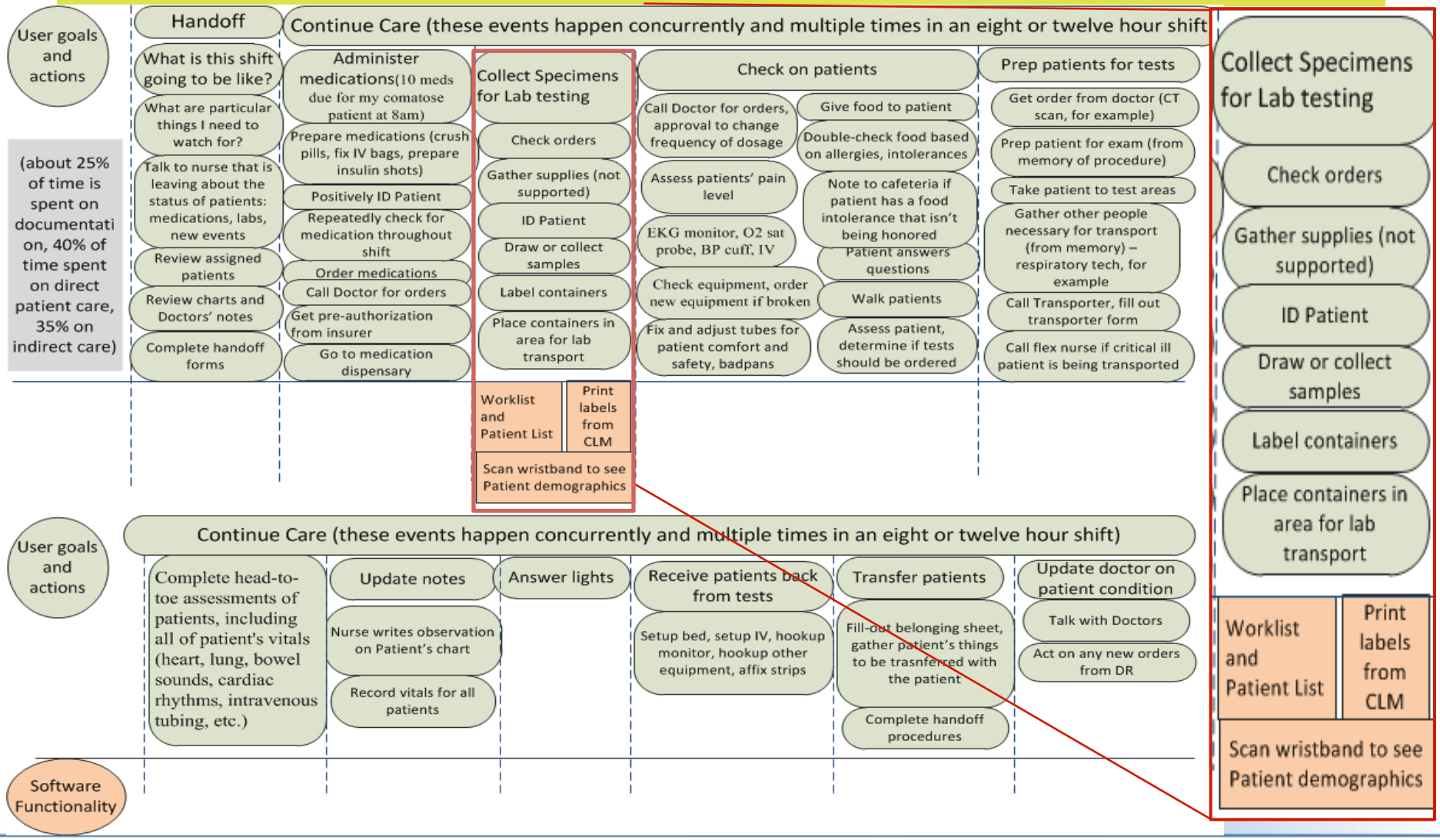
Background:

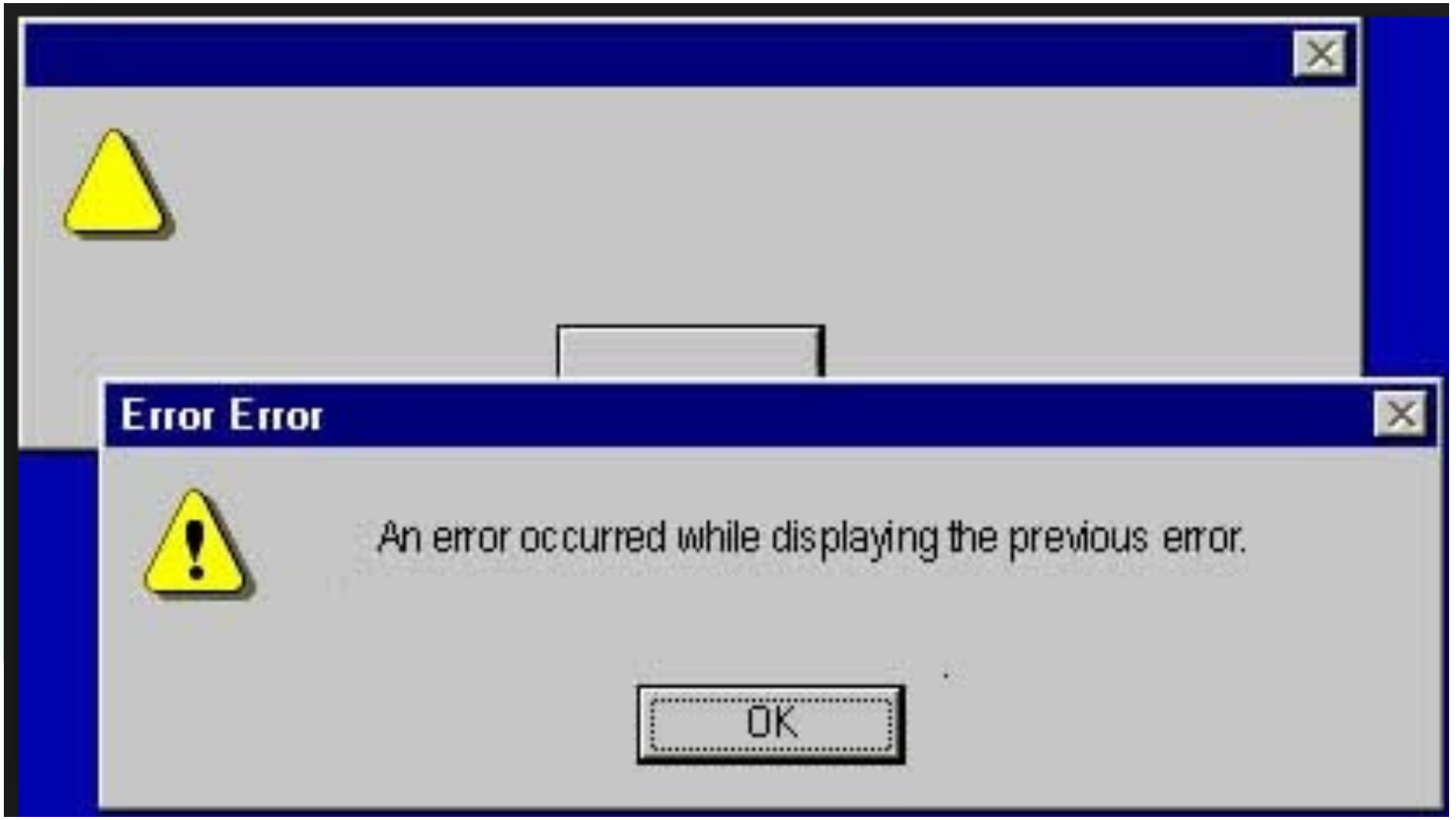
- Multi-hospital system
- 10,000 employees
- 6,000,000 lab tests per year

Problem:

- Mislabeling issue – for 10 years!
  - 300 labeling errors per month
    - 0.06% or .6 in 1,000 (average for CP is .92 in 1,000*)
    - MOST were patient ID (wrong label on wrong blood; batch printing)
- Nursing hurdles
  - Change management

* Elizabeth A. Wagar, Ana K. Stankovic, Stephen Raab, Raouf E. Nakhleh and Molly K. Walsh (*2008*) Specimen Labeling Errors: A Q-Probes Analysis of 147 Clinical Laboratories. Archives of Pathology & Laboratory Medicine: October 2008, Vol. 132, No. 10, pp. 1617-1622.




Error Error
An error occurred while displaying the previous error.
OK

Case Study 2 – Nursing - After

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Solution

- 2010: new patient-focused care model
  - Step one - Lean and Six Sigma (-50%)
  - Step two - Training and socialization
  - Step three - Technology (5 years prior – Med Admin)

Result

- Used in ICU, labor and delivery, outpatient draw centers, ED
- Immediate decrease in errors from 8 – 10 per month to 2 per month
- Technology only *sustains* what already must be in place
- Nursing leadership vital
- Hardware support comfort factor – it CAN be done
- Next steps:
  - Micro needed
  - Mobility for outpatients
  - IR - new challenges!

Case Study 3 – Mixed Draws - Before

- Background
  - Large network of academic, community and specialist hospitals
  - Top 20 ranked
  - One location – HIMSS Stage 7 in EHR implementation

- Issues
  - TAT targets
  - Labeling!
    - Slowing down the laboratory
    - Nursing
      - Integration REQUIRED: device fatigue…
      - But this is a lab process!
    - Safety – draw responsibility

Case Study 2 – Mixed Draws - After

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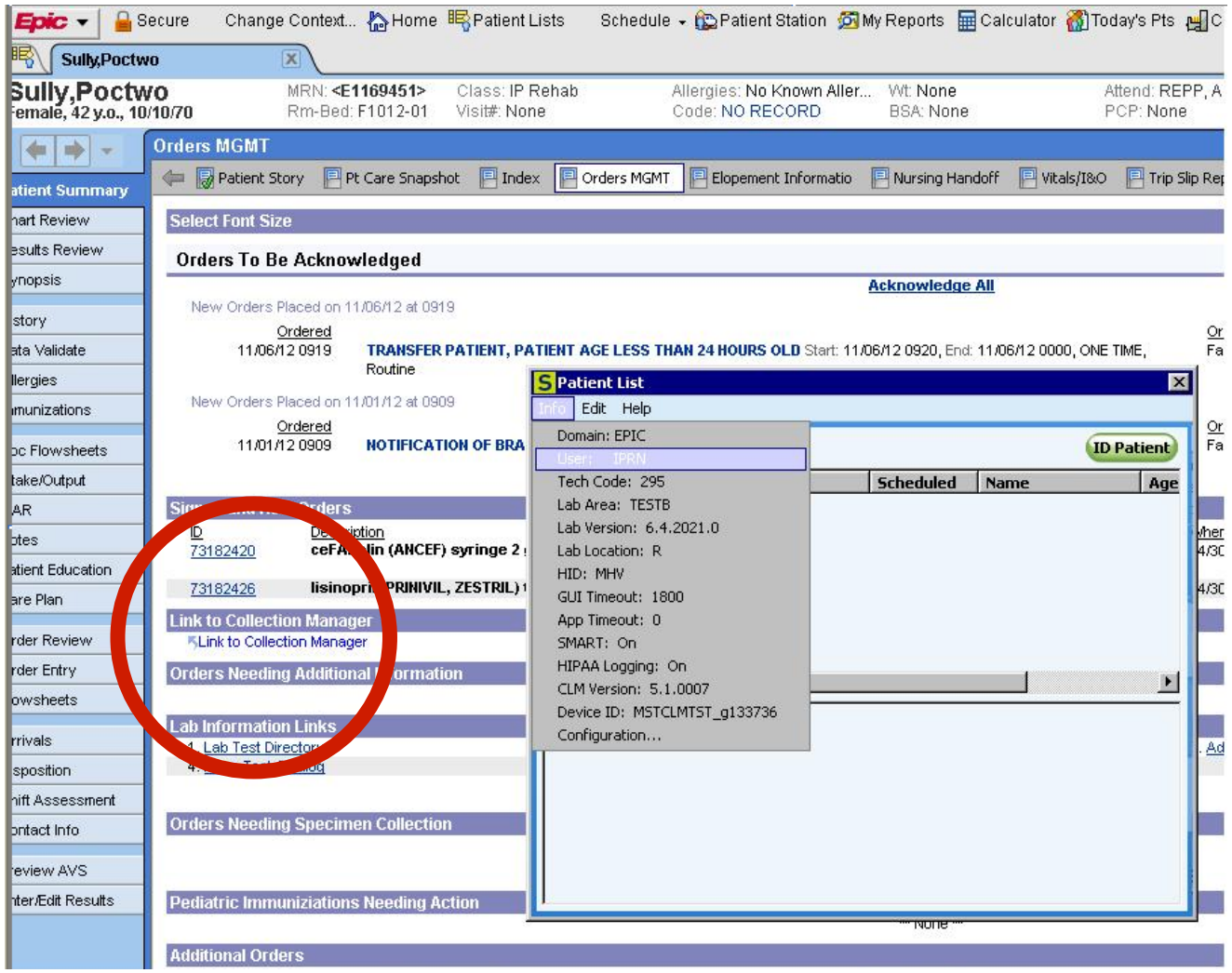
- Solution
  - One size does not fit all
    - Nurses – WOWs
    - Phlebotomy – Handhelds
    - Locks
  - ‘Single Sign On’
    - Internal IT worked with MS to build Sentillion Bridge
    - LDAP
    - SQ and Epic
  - ‘Batch’ monitoring of hardware (Soti)
  - Designated draw system
- Result
  - Single sign on with badge, tap and go with RFID reader for 800 nurses
  - 100 phlebotomists
  - Improved TAT by 15 – 30%; some remaining errors
  - Next steps
    - Mobility and better outpatient support
    - Palm Vein Pattern readers

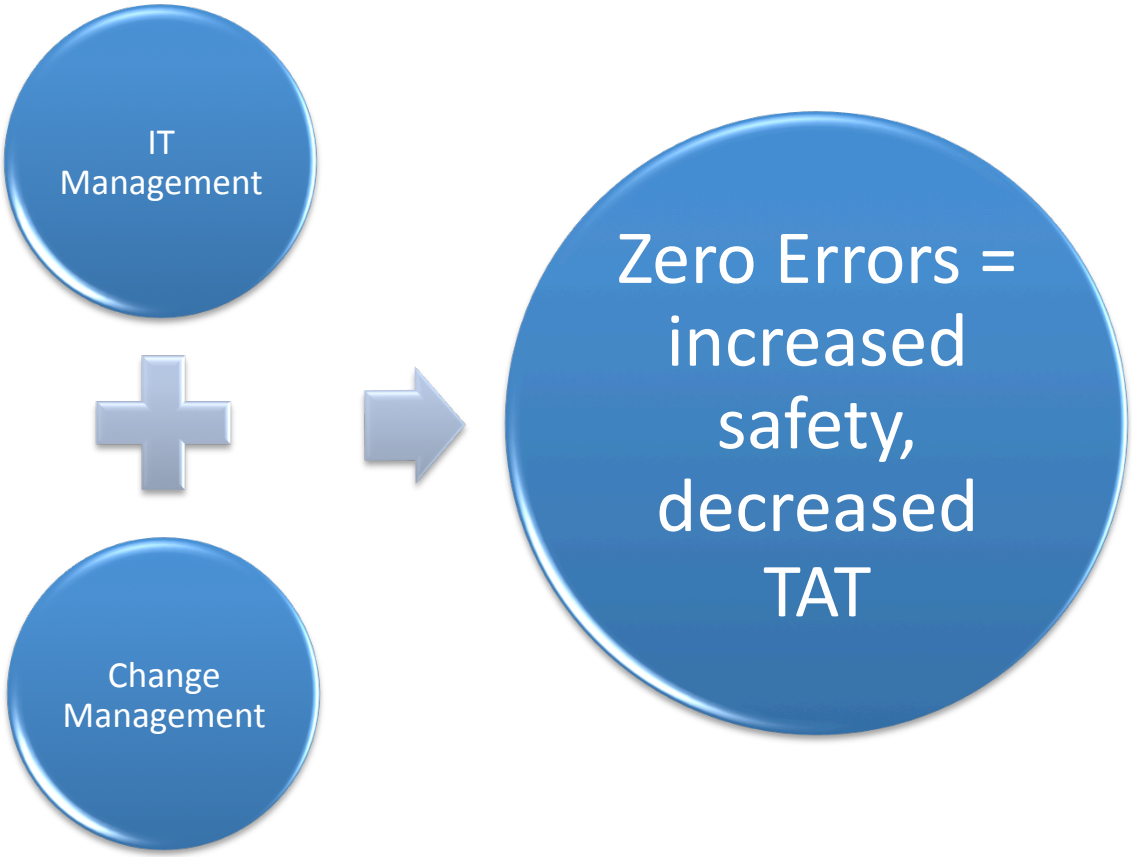
HIS integration



Summary

- ‘Danger’ areas
  - PPID
    - Connectivity, connectivity, connectivity
  - Hardware
    - They are **NOT** all equal
  - Culture shifts
    - Change management
    - Cultural ownership
    - Prove concept
  - Partnerships
    - Technology support up front
      - Let them do the heavy lifting
    - Demand more of your vendors!
      - Let them do the heavy lifting!

Summary



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Questions?

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Thank you!

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Introduction

Using case studies, and a ‘before’ and ‘after’ analysis, the purpose is to outline the extent to which the lab can benefit from owning the pre-analytical phase in terms of increased efficiencies and increased safety, whether their specimens are collected by nurses or phlebotomists.

Key Learning

- Laboratory’s ability to impact its business by focusing on the pre-analytical phase.
- Lessons learned - what to do and what to avoid when implementing a new patient identification and collection workflow.
- Basic integration and usability that can lead to successful technology adoption by non-lab personnel.

Attendees Will

- Attendees will learn how to implement a collection process with simple integration points between their collection technology and their enterprise systems that enhances adoption, turnaround time efficiencies, and avoids labeling and/or patient identification errors.