Unleashing the Power of LIS to Boost Quality and Service Levels of POC Testing

Kim Skala, MT ASCP POCS (AACC)
POCC, ACL Laboratories
Advocate Christ Medical Center & Hope Children’s Hospital

Disclosure Statement

I have no financial relationship with a company requiring disclosure of potential bias or conflict of interest.
Objectives

After completing this activity, the learner will be able to:

- Identify methods for improving patient identification using technology
- Describe ways the LIS can help ensure POCT results get to the EMR accurately and meet JC/CAP regulations
- Define ways to provide data to help health care providers identify issues and affect practice change

ACL Laboratories

- 26+ Hospitals, 2 Central Labs, 110+ Clinics & Patient Service Centers incorporating Advocate Healthcare in IL & Aurora Healthcare in WI
- 2,700 Laboratory Professionals in IL & WI
ACMC and HCH

- AMC 690-beds with Heart and Kidney transplantation, one of the largest VAD programs in the country and a Level I trauma center with 90,000 ED patient visits annually.
- HCH 69-bed children’s hospital, including a 37-bed Level IIIC neonatal intensive care unit, large Pediatric Open Heart program
- Approx. 20 POCT, about 2400 POC Operators, 1.8 FTEs
What’s Happening?

- Situation-The Laboratory landscape is changing-including POCT
- Background-POCT results have not always been incorporated into the medical record
- Assessment-POCT is here to stay, it’s growing, and we must manage all aspects of it’s quality
- Recommendation-Use the LIS and technology to boost the quality and service to patients and caregivers

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Changing Laboratory Landscape

- Continued Growth of POCT
  - Projection-2015-US$ 20.2 Billion world-wide
    Central Lab (69%)
    POCT (31%)

- Factors:
  - TAT/Throughput
  - Strategic Blood Management Initiatives
  - Customer demand (Internal & External)


Changing Laboratory Landscape

- HITECH
- EMR-EHR
- HL7
- LOINC Logical Observation Identifiers Names and Code
- ACA Affordable Care Act
- ACOs

*Did we need more acronyms?*

Changing Laboratory Landscape

**Meaningful Use** (Meaningful Use) is a term associated with *The American Recovery and Reinvestment Act of 2009* (ARRA) that authorizes the Centers for Medicare & Medicaid Services (CMS) to provide reimbursement incentives for medical professionals and hospitals that become compliant in the use of certified electronic health record (EHR) technology. Professionals and hospitals that meet the criteria of "meaningful use" will begin receiving incentive payments in 2011 with a gradual decline in reimbursement amounts until the year 2015. By this date, providers are expected to have adopted and be actively utilizing a certified EHR in compliance with the "meaningful use" definition or be subject to financial penalties under Medicare.


**HITECH** As a part of the *American Recovery and Reinvestment Act (ARRA)* of 2009, *Health Information Technology for Economic and Clinical Health (HITECH)* refers to the portion of the ARRA that is used to increase the use of Electronic Health Records (EHR) by physicians and hospitals. This legislation provides immediate funding for health information technology infrastructure, training, dissemination of best practices, telemedicine, inclusion of health information technology in clinical education, and State grants to promote health information technology.

What does this mean for me?

- Can you translate?
  - Emphasis on incorporating all lab results into the EMR/EHR (elimination of paper, portability across multiple systems)
  - Emphasis on improving quality, improving outcomes, preventing readmission
  - Improvements require DATA-and the lab has DATA!
Unleashing the Power of LIS & Technology

- First-Improve Patient Identification
  - Bedside labeling/Collection management systems

- Case Study-Bedside Glucose
  - LIS Interfaced results since 1998
  - Measured % Correct Patient ID
  - Converted to Six Sigma DPM

POCT, Partnerships, and Patient Identification

Unleashing the Power of LIS & Technology

- Tracked Exceptions with Note Codes in TELCOR
- Rounding identified specific barriers
- Needed wristband improvements
  - Current band didn’t always scan
  - Code 39 vs Code 128
  - 2 linear barcodes on band
  - Quality of band, print, font size etc.

POCT, Partnerships, and Patient Identification
Unleashing the Power of LIS & Technology

What's a POCC to do?

- Use your data
- Align with JC NPSG, KRAs
- Align with other projects
- Take others with you
- Use Technology to make it easier to do it right!

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Old Wristband made with patient chart label and Code 39 linear barcodes for MRN & FIN

New Wristband

Code 128 barcode with leading (required) check digit

Aztec barcodes for medication reconciliation

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Little Fish in a Big Pond

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Unleashing the Power of LIS & Technology

- Got the necessary buy-in
  - Got support from ‘most’ POCCs
  - CNE support to go to ‘scan only’
  - IT support for changes in wristbands
  - Used all the tools in the arsenal
  - Made the process more LEAN

Measures of Success - data

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Measures of Success - and phone calls!

“Love the new wristbands!”

“The new wristbands are so much better”

“Thank you for making it easier to do it right!”

“I know I didn’t really think we needed these changes and wasn’t really on board with the project, but it really made a big change and I’m glad you took me with you.”

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Unleashing the Power of LIS

- Next - get other POCT results into the chart
- Eliminating paper charting forms
- Ensuring CAP/JC regulatory regs are met
- Powerforms in the EMR w/ manual entry
- Interfacing through Middleware & LIS
- INSERT YOURSELF into the process

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### Unleashing the Power of LIS

**The regulations**

**CAP GEN.41096 Report Elements**

The paper or electronic report includes the following elements.

1. Name and address of testing laboratory
2. Patient name and identification number, or unique patient identifier
3. Name of physician of record
4. Date and time of specimen collection, when appropriate
5. Date of release of report
6. Time of release of report, if applicable
7. Specimen source, when applicable
8. Test result(s) (and units of measurement, when applicable)
9. Reference intervals, as applicable (see Note below)
10. Conditions of specimen that may limit adequacy of testing

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### Powerforms/Manual entry into the EMR

**Pros**
- Eliminates paper chart forms, Cheaper

**Cons**
- No guarantee of result entry or correct entry
- No operator or patient ID validation
- No order, billing or RVU capture
- Reference/Critical Range handling
- Cannot eliminate all paper
- Can't meet all requirements
Unleashing the Power of LIS

Laboratory/POCCs (with Attention to Detail) should be involved in design

- POCCs / Laboratory Information System personnel must:
  - Think like a ‘Risk Manager’
  - Incorporate Patient Safety features in design
  - Check verbiage
  - Check sample date and time are distinguishable from received date and time etc.
  - Avoid quality control documentation being confused with patient result documentation
Unleashing the Power of LIS

LIS interfacing of POCT results

- Cons-expensive
- Pros-can help ensure:
  - All results with a valid patient ID get to chart
  - Results without a valid patient ID are stopped
  - POCT results identified as POCT but handled like other lab results

Unleashing the Power of LIS

Pros continued:
- Reference Ranges are included and managed by age, sex, sample type
- Critical Values included and managed by age, sex, sample type
- Allow for POCT Critical Values to have same documentation
- In conjunction with CPOE, orders are captured and loop closed
- Billing is captured
Unleashing the Power of LIS

More considerations
- Check results all the way through all systems downstream
- Check after every upgrade to every system
- Try to design to distinguish by CLIAs for shared EMRs
Unleashing the Power of LIS & Middleware

- More emphasis on improving quality, improving outcomes, preventing readmission

ACOs – At Risk Populations & Population Health
Diabetes Task Force focus
- Diabetes Management Initiatives
- POCC provided data
- Partnered with nursing to use data to identify issues and help affect practice change and preventing re-admissions

Unleashing the Power of LIS & Middleware

Case Study

- Looked at timing of bedside glucose testing, meal and medication administration
- Not always per best practice within 30 min
- Focus groups measured prior
- 8S-0.7%, 8EW-0.7%, 3EW-0%, 6S-54.6%
- Determined standardized workflow to emulate best practice and roll out plan
- Educated staff and re-measured

Practice Change: Timing Testing, Meals & Meds within 30 mins.
Diabetes management initiatives

"National agencies studying quality of care, including the U.S. Joint Commission, have spotlighted optimization of inpatient glycemic control. Defining performance measures and calculating a set of baseline metrics takes the first step toward improving glycemic management across health systems. Presenting these results to frontline clinical staff then provides feedback, which is important to change behavior."

Unleashing the Power of LIS & Middleware

- Hypoglycemia measurements
  (ADA definition used <70 mg/dL)
  - Quarterly unit reports submitted to Glucometrics
  - Weekly Randomized Hypo events measured
  - Hypo events are documented, treated, and re-measured (within 15 mins/oral, 5 mins/D50)
  - Baseline 8% (2011)
  - Jan 2012 23%, increased to 62% by Aug 2012

There’s more work to do
- Laboratorians have a different-yet valuable skill set including access to data
- We can partner with clinicians to help to identify issues, improve quality, prevent readmissions

Remember to Connect to Purpose to Serve Our Patients Better
“Feel the love!”

Thank you-
Kimberly.Skala@advocatehealth.com

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