How Your Lab Can Help Physicians Achieve EHR Meaningful Use

Pat Wolfram, Ignis Systems

What We’ll Cover

- EMRs and Meaningful Use (MU)
- MU as it pertains to labs
- What’s happening in the EMR world
- The physician’s expectations
- How you can meet them
But First....

Something about the Dark Report

When A Practice Buys An EMR
Their Whole World Changes
Pre-EMR ---- Pockets Of IT

- Patient charts are primarily on paper
- Multiple lab client systems
- Other clinical systems automate
- Primarily used by the practice staff

When The EMR Shows Up

- It’s the practice’s clinical cockpit—all patient care activities will be managed here
- Goal:
  - Results will flow to the EMR
  - Orders will originate in the EMR
The Expectation

- Load flow-sheet views
- Load test order categories
- Load custom lists, panels, ..
- Complete the testing

The Physician’s Expectation

**Setup**
- Load flow-sheet views
- Load test order categories
- Load custom lists, panels, ..
- Complete the testing

**Operations**
- All labs look the same
- Single order list (not 3)
- Route to the right lab
- Results to same flow-sheet
Desired Order/Result Workflow

Clinic
- AOE questions
- Minimize data entry
- Results match to charts
- Results into the flowsheet
- Desktop notification
- Updates the order status
- Easy to order
- ABN validated
- Verify insurance
- Verify ABN
- Minimize data entry

Lab
- Lab Order Completion
- Accessioning & Testing

And Support For Multiple Labs

Clinic
- AOE questions
- Minimize data entry
- Results match to charts
- Results into the flowsheet
- Desktop notification
- Updates the order status
- Easy to order
- ABN validated
- Verify insurance
- Verify ABN
- Minimize data entry

Lab
- Order ID
- Patient ID
What HITEC Meaningful Use Requires

Clinic

• AOE questions
• Minimize data entry
• Results match to charts.
• Results into the flowsheet
• Desktop notification
• Updates the order status
• Easy to order
• ABN validated
• Verify insurance
• Verify ABN
• Minimize data entry

Lab

• Lab Order Completion

EMR Chart Matching

Meaningful Use

Through incentive payments the HITECH Act promotes the adoption of EHR technologies with the goal to:

• Improve quality, safety, efficiency of health care
• Engage patients and families
• Improve care coordination
• Improve population and public health
• Ensure adequate privacy and security protections for personal health information.

$18,000,000,000 in total

$44,000 per care provider
A Summary of EMR Meaningful Use Measures

• 15 “Core” Measures
  CPOE, drug-to-drug checks, active problem list, ePrescribe, active med list, active med-allergy list, patient demographics, vital sign capture, smoking status, report quality measures, clinical decision support, patient chart sharing (electronic), patient clinical summary, care provider chart sharing, PHI protection.

• 5 of 10 “Menu Set” Measures
  Drug formulary, structured lab results, quality improvement patient lists, patient reminders, patient education guidance, medication reconciliation, care summary sharing with colleagues, immunization submission to registries, electronic syndromic surveillance to public agencies.

MU Stages by Payment Year

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<th>2012</th>
<th>2013</th>
<th>2014</th>
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### MU Medicare Payment Amounts

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<th>Calendar Year</th>
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<td>$24,000</td>
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### Important Meaningful Use Dates

- October 1, 2011 – Last day for eligible professionals to begin their 90 day reporting period.
- Interfaces must be in use at this time
- December 31, 2011 – Reporting year ends for eligible professionals.
Physicians Must Use “Certified EMRs”

Guess how many EMRs are certified today?

Three years ago  
about 35

Last year  
about 135

Today???

“Fully Certified ” EMRs  
304

But wait, that’s not all……..

“Certified Modules”  
132

Total  
436

…. Sheesh!

304 Fully Certified

http://www.cchit.org/products/Ambulatory
MU Certification -- As It Pertains To Labs

Stage One (2011 and 2012)

1. Lab Test Results
   An optional menu item (one of 10 menu items)
   Incorporate 40% of clinical lab test results as structured data

2. Computerized Physician Order Entry (CPOE)
   Not required for phase one
   But a likely requirement for phase two, starting 2013

Not great news for labs....
- Orders can be on paper
- In the absence of orders, results are less robust
  (patient chart mismatches, provider ID mismatches, order reconciliation, ....)

MU As It Pertains To Labs

Stage Two (expected in 2013)

1. Lab Test Results
   Becomes a CORE item (now required)
   Probably the same 40% structured data requirement

2. Computerized Physician Order Entry (CPOE)
   At least one lab test is ordered for 60% of unique patients that require lab testing.
   Order does not have to be sent electronically

Small relative improvement
- No real change for results
- Orders must be documented in the EMR, not necessarily rules driven. Not sent electronically.
MU As It Pertains To Labs

Stage Three (expected in 2015)

1. Lab Test Results
   - 90% structured data requirement
   - Must reconcile with order if the order was placed

2. Computerized Physician Order Entry (CPOE)
   - At least one lab test is ordered for 80% of unique patients that require lab testing.
   - Still, does not have to be sent electronically

Small relative improvement
- Results
- Orders are only documented in the EMR, not necessarily rules driven. Not sent electronically.

Other Factors You Might Consider

- Volume is up
  - "Adoption is up to 30% in 2011 from 20% in 2010"
    - Dr. Farzad Mostashari, National Coordinator HIT Centricity EMR User Group, April 30, 2011
- New EMRs
  - Many with minimal integration experience
  - Differing capabilities
- Practices have vague guidance on choosing an EMR
- During EMR selection, integration gets little diligence
- Thinned out EMR and EMR integration talent
- Is meaningful use even a good metric?
  - Orders aren’t required
  - Only 40% structured results?
So, The Practice Buys An EMR

The Expectation
What The Practices Hears From EMR Vendors

“We support HL7 – you’re good”

The Physician’s Expectation

The labs and the EMR vendor will:

- Set up their lab results (the HL7 import, the chart matching criteria, the error resolution methods, the training, …)
- Set up the lab orders (categories, custom lists, panels, billing, ..)
- Load their flow-sheet views
- Complete the testing

... remember, they’re busy with the other 19 EMR MU requirements.
**Desired Order/Result Workflow**

- Clinic
  - AOE questions
  - Minimize data entry
  - Results match to charts
  - Results into the flowsheet
  - Desktop notification
  - Updates the order status
  - Easy to order
  - ABN validated

- Lab
  - Verify insurance
  - Verify ABN
  - Minimize data entry
  - Updates the order status
  - Order reconcile
  - To the lab specification

**EMR Workflow Supports Multiple Labs**

- Clinic
  - AOE questions
  - Minimize data entry
  - Results match to charts
  - Results into the flowsheet
  - Desktop notification
  - Order reconcile
  - Easy to order
  - One order category
  - ABN validated at POC

- Lab
  - Accessioning & Testing
  - Updates the order status
  - Order reconcile
  - To the lab specification
EMR Lab Results

Lab Results Project

- Setup of the EMR lab resulting and ordering is “on your list”
- Could be multiple flow sheets

Lab IT or Middleware

- Distribution mechanism (VPN, HTTPS, ...)
- HL7 message reformatting per EMR
- Results code mapping to LOINC or EMR codes
- Creates readable reports (modify the HL7, create HTML, create PDF)
- Posting to a repository (RHIO, HIE, Public agency ...)

EMR

- Multiple flow-sheet views
- Patient ID match
- Provider ID/notify
- Error resolution

Repository

HIE, Public Agency...
When an EMR has “Weak” Reporting

- Middle-ware presents a "readable" HTML report
- Download results include a "link" to that report

When an EMR has “Weak” Flow-sheets

- Middle-ware keeps flow-sheet data
- Downloaded results include a "link" placed in the patient chart
When an EMR has “Strong” Flow-Sheets

- Most valuable to the practice with multiple labs
- You’ll be expected to map to the EMR’s observation terms.

EMR Lab Orders
Ideal Orders, From The Practice’s Perspective

- Easy to use
- A single library to order from
- Exam room ABN checks (in the background)
- Lab-specific AOE s
- Requisition splitting
- Insurance-based routing to the right lab
- HL7 orders to the right lab
- Order/result loop insures that all IDs match

How Close To Ideal Do EMRs Get?
**EMR #1:**

Has full functionality

...... for a single lab

**EMR #2:**

Multiple Lab Support

- Support for multiple lab libraries, but require that each test library is loaded and orderable separately
- Physicians challenge: Know which lab to order from
- Support team challenge: maintain multiple libraries and rules
EMR #3

- Some EMRs perform ABN checks, but don’t support AOE or draw requirements

EMR #4

- Can capture the order, but not support ABN, AOE or draw requirements
- This is all the MU requires – in phase 2 (2013), not phase 1.
Middle-ware Can Help

Middle-ware

1. Select Tests
   Single Order Library
   EMR

ABN → Rules Check → AOE → Draw → HL7

Middle-ware With Workflow Integration

Middle-ware

ABN → Rules Check → AOE → Draw → HL7

EMR Workflow

Select Tests
   Single Order Library
   EMR Workflow
Every Practice’s EMR Type Should Be Supported

The Ignis Model

EMR-Link

Practice EMR

Orders Kit
- Single connection
- Test directory
- ABN rule checks
- AOE questions
- Specimen info
- Requisition setup
- Label printing
- HL7 translation
- HL7 ORM msg

EMR Results Kit
- Single connection
- HL7 translation
- Routing to EMR
- Structured results
- Result mappings
- PDF
Integrates Your Services To Any EMR (or no EMR)

EMR-Link

Stand-alone orders (no EMR)

EMR with HL7 only

EMR with workflow integration

Orders

Results

Orders

Results

Orders

Results

Repository
HIE, Public Agency...

Built once

Lab/ Rad

Lab Setup and Maintenance
**EMR Setup and Maintenance**

- Ideally the EMR team and processes will
  - Build a flow-sheet from your utilization report
  - Map from your result codes to the EMR’s codes (LOINC?)
  - Load your DOS (directory of services) in an automated fashion.
  - Load your ordering rules (requisition splitting, AOE questions, specimen requirements, ..) from a compendium.
  - Use your utilization report to create custom order lists

- Or is setup customized?
  - Customized order lists. Great for a practice’s unique workflow and a valuable EMR feature.
  - But, some EMRs build this from the ground up with templates.

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**Your Lab Information System Setup and Maintenance**

- Evaluate your LIS
  - Can it provide a compendium with a full directory of services (DOS)?
  - Will that compendium include ordering rules, specimen data, ABN cost data
  - Can your LIS provide a utilization report?
  - History of tests for this practice

- Evaluation your resources. Can they
  - Set up the orders categories in the EMR?
  - Set up the custom order list in the EMR?
  - Set up the flow sheet views in the EMR?
  - Set up the cross-reference files for the result codes

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Part of repeatable process
EMR Integration Maintenance

- Results maintenance
  - When you update a results code, what happens in the EMR?
- Orders maintenance
  - When you update an order code, what happens in the EMR?
- Who troubleshoots a missing lab result?

Recommendations
The Situation

- More and Different EMRs – 400+
- Adoption rate increases
- Installing at practices that are less prepared
- Less savvy EMR consultants

Here are some approaches ......

- For your lab
- As an industry group

Your Plan: Review Your Resources

- Look at your LIS capabilities
  - Can your LIS provide a utilization report?
  - Can your LIS provide a compendium with your lab ordering rules?
  - Can it accept an electronic order from an outpatient EMR?
  - Must it receive a registration event from the HIS first? Is this really a show-stopper? (it’s not for the reference labs)

- Your interface engine (or middleware) capabilities
  - Is your team ready for 2X the volume?
  - Can you map to the result codes of the EMR
  - Can you map to LOINC?

- Look at your processes for providing lab-to-EMR integration
  *you’re welcome to use the Ignis project plan as a starting point.
Your Plan: Get Involved in the EMR Selection

- Conduct your own EMR assessment
  - Ask your interface team to rank the EMR that were easiest to deploy and support.
  - Ask your middleware vendor to rank EMRs for integration (have them to plan bandwidth for your upcoming projects)

- Partner with your practices. Create an RFP they can use for EMR selection (use the Results and Orders checklist in this presentation)
## Help Your Practices Choose An EMR

### Results Checklist

| ✓ | Does the EMR have its own result code database? |
| ✓ | Does the vendor provide result code mapping services? |
| ✓ | How are mismatched results dealt with? |
| ✓ | How are result codes maintained? |
| ✓ | Can the EMR support results from multiple labs? |
| ✓ | Will the result codes from the various labs import to the same flow-sheet? |

### EMR Orders Checklist

| ✓ | Can an HL7 electronic order (HL7) be sent to the lab (or to outreach product) |
| ✓ | Is ordering easy to use for the physician? If it’s installed, is it being used? |
| ✓ | Is medical necessity being checked when physician places the order? |
| ✓ | Can lab specific AOE support |
| ✓ | Can lab specific requisitions be printed? |
| ✓ | Can the EMR support orders to multiple labs? |
| ✓ | Must the physician choose the correct lab, or can they choose from a single list and the EMR route to the right lab? |
| ✓ | Is the staff ordering workflow easy to use? |
| ✓ | Is the setup automated? Is it derived from lab’s utilization report and directory of services? |
| ✓ | Are order and result codes easy to set up and maintain? |
Your Plan: Reach Out To The Practices

- Host an EMR open house
- Tell them you’ll help with meaningful use
- Offer to assist them in the evaluation
- Give them your EMR integration “report card”

Your Plan: Tie Into Federal Initiatives/Funding

- Regional Extension Centers
  - Chartered with enabling EMR adoption
- Your state HIE commission. Every state has one
  - Will their HIE solution support “pushing” your structured labs to the EMRs in your area? They should.
- Lab Interoperability Cooperative grant by CDC
  - Awarded to SureScripts, American Hospital Association (AHA), and College American Pathologists (CAP)
- Community Colleges HIT Training
The State HIE Initiatives Can Help

- Each state has an HIE initiative to facilitate access and retrieval of clinical information to improve patient care.
- Each state has $4M - $16M to fund this connectivity effort.
- July 6 2011 PIN (Program Information Notice) from ONC modified the HIE directive to focus on:
  - ePharmacy
  - Lab results (“structured and "pushed")
  - Clinical summary sharing
- So, labs got into the top three for initial HIE (2011)

Examples of the State HIE work

- Oregon – still shaping their RFP
- Indiana – in some cases, making funds available to the practices
- Florida -- $20M awarded to Harris Corp to set up clinical data sharing infrastructure

.... Contact your state HIE folks.
An Industry Plan

- Drive for standardization of compendiums
  - Already started with the eDOS proposal
  - Insist that EMR vendors import the compendium for setup and maintenance

- Create our own EMR integration score-card
  - Workflow functionality
  - Setup and maintenance

Resources

- ARRA-sponsored Regional Extension Centers

- Oregon State HIE Operational Plan

- About the ARRA
The Physician’s Expectation

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Thank You!

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