Indian Health Service

Lab Professional Specialty Group: New Kid on the Block

2024 IHS PARTNERSHIP CONFERENCE

Panelists

Arlinda Lee, PAO
Laboratory Consultant

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Lab Informatics Specialist

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Abbreviations

RPMS – Resource Patient Management Systems

LIS – Laboratory Information System

PSG - Professional Standards Group

POCT – Point of Care Testing

NLPC – National Laboratory Professional Council

POC – Point of Care

Learning Objectives (1)

- Present the history of the Laboratory PSG or Professional Standards Group and brief description of the laboratory RPMS package/LIS.
- Describe how this new group functions and reports to the National Laboratory Professionals Council, its current projects and how to submit enhancement request.
- Describe the scheduled maintenance of the Reference Laboratory bi-directional interface for optimum performance.
- Tips for successful interfacing of laboratory equipment for transmission of test results into the patient's Electronic Health Record.
- Understanding the explosion of point of care laboratory testing and the need to expand IT interfaces to reduce errors.
- Understanding the enormity and size of the Laboratory RPMS package/LIS.

Learning Objectives (2)

- Describe the process of alpha and beta patch testing by OIT and service unit laboratories volunteering their participation.
- How Lab PSG is preparing for the implementation of the new Laboratory Information System in the next few years.

November 2024 Lab Leadership Mentorship Meeting

History of the Laboratory PSG

PRESENTER: ARLINDA LEE

PHOENIX AREA LAB CONSULTANT & NLPC CHAIR

V lab
V microbiology
V blood bank
V procedure
V radiology

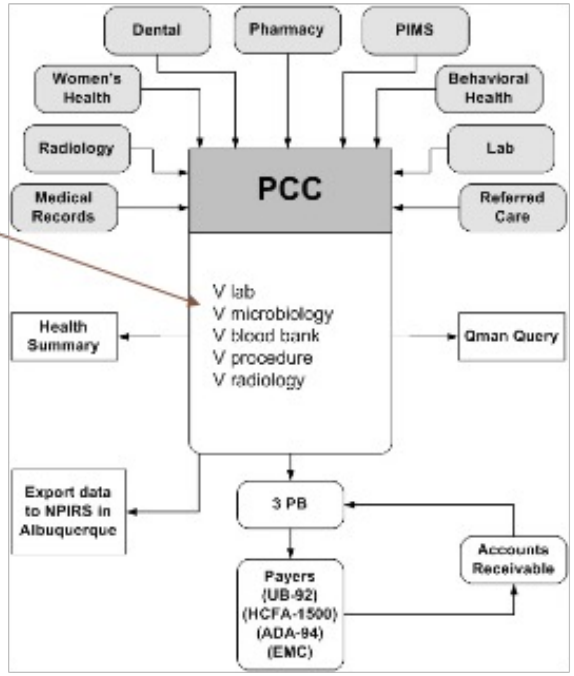
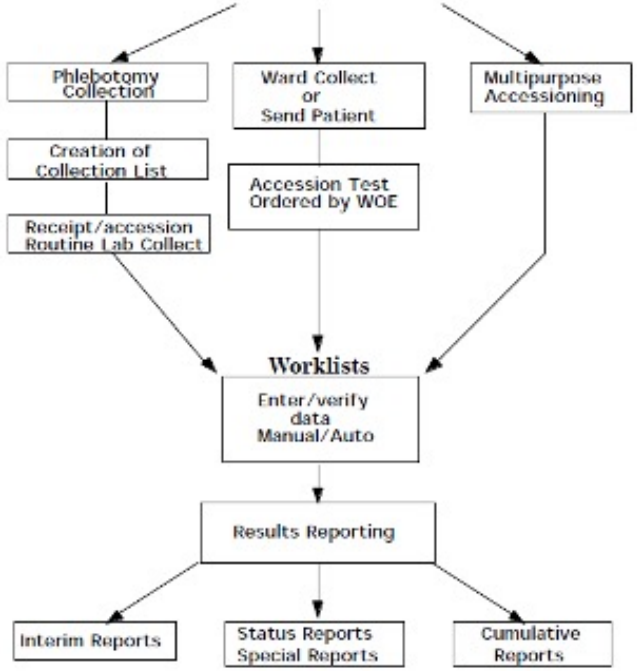


Diagram of Laboratory Package Workflow



History of the Lab Professional Specialty Group

In the mid to late 1990s with the implementation of the VA LR version 5.2 (RPMS lab package), a pioneer group was assembled and known as the super end users of the RPMS laboratory package. They were informally called Lab PSG, but there was no official organization and no charter.

In spite of this, this group was able to mold the RPMS lab package to its current state, although it is not in comparison to the VA Health System's VistA package.

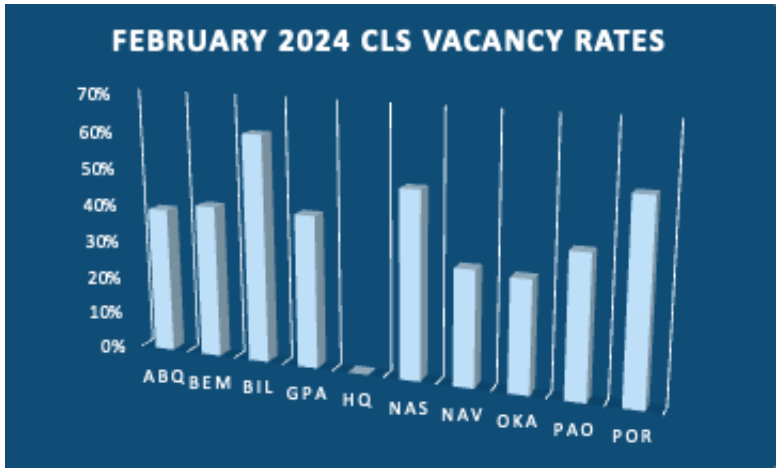
NLPC was recognized in 2016 and this group of super end user called themselves RPMS Super End Users as the OIT Lab Consultant needed their input for future patch developments.

In August 2018, the NLPC appointed a work group to begin work on a new Lab PSG Charter. It was finally approved in August 2023.
https://www.ihs.gov/ihm/circulars/2023/laboratory-professional-specialty-group-lpsg/

1. PURPOSE. The purpose of the Laboratory Professional Specialty Group (LPSG) is to identify, define, prioritize, and advocate for the information resource management and technology needs of users of the clinical Laboratory Information Systems (LIS) in the Indian Health Service (IHS).

2. AUTHORITY. The LPSG functions under the guidance and authority of the National Laboratory Professionals Council (NLPC). The LPSG charter members will solely conduct laboratory informatics activities, whereas the NLPC charter members' main focus is to establish, implement, and preserve the National Laboratory Services Program to achieve the IHS mission.

Purpose:
The technology world is exploding in regards to Health Systems, the laboratory required features especially seen during the COVID-19 pandemic.



Authority:
This describes the focus of the two groups. The NLPC has been focusing on a number of issues that are IHS-wide whereas the Lab PSG focuses on improvements of the RPMS laboratory package.

How the Laboratory PSG Functions

PRESENTER: CDR JENNIFER ANTONIO
PHOENIX AREA LAB INFORMATICIST
LPSG CHAIR

Who is Lab PSG?

The Lab PSG membership consists of Federal Indian Health Service Clinical Laboratory Scientists (CLS) or Medical Laboratory Scientists (MLS).

Officers and Members:

- Chair: CDR Jennifer Antonio, MT (ASCP), MBA
- Vice-Chair: LCDR Marcia Sahmaunt, MHA, MLS(ASCP)Ccm
- Area Members
- Area Informaticists

Election for Officers

Elections were held in September 2023. CDR Antonio and LCDR Marcia Sahmaunt were elected to serve as the Chair and Vice-Chair, respectively.

- Terms: 2-year

  At the end of the 2 –year term for the Chair, the Vice-Chair shall assume the role of PSG Chair for a 2-year term.

- Next Election for Vice-Chair will occur September 2025

Objectives of the Charter

Main: "*Determine and evaluate...the information management and technology requirements needed to provide safe, efficient, economical, and effective health care and to provide expertise and support for similar efforts".*

Improve workflow efficiencies for day-to-day laboratory testing while adhering to accrediting agency standards.

Identify requirements for the development or modification of the LIS.

Endorse Alpha and Beta testing of new patch and software releases.

Collaboration with OIT, NLPC, NCI and other committees to enhance and optimize the Laboratory Information System.

Accreditation Standards

Laboratory accrediting standards and the Code of Federal Regulations are always kept in mind when Lab PSG is reviewing and discussing an enhancement requires.

LABORATORY COMPUTER SERVICES

Multiple types of laboratory information systems (LIS) exist. Traditional systems have a local "host" database (ie, the computer hardware and software) serving the information needs of the laboratory; the laboratory is the only "user." In the current environment, the host is often physically remote from the laboratory and in fact the host may have multiple user laboratories. Many of the Computer Services requirements may apply to host, user, or both, depending on how information services are organized in the laboratory. The laboratory is responsible for ensuring that the provider of host functions meets CAP requirements (see GEN.42195, below).

The requirements in this section do NOT apply to the following:

1. *Desktop calculators*
2. *Small programmable technical computers*
3. *Purchased services such as the Quality Assurance Service or Laboratory Management Index Service of the College of American Pathologists*
4. *Micro computers used solely for word processing, spreadsheets, or similar single user functions*
5. *Dedicated microprocessors or workstations that are an integral part of an analytic instrument*

Chapter: Information Management

Overview:

Laboratory services generate health information that must be managed systematically by the laboratory. All data and information used by the laboratory are categorized, filed, and maintained. The system should accurately capture health information generated by the laboratory services. Health information should be accessed by authorized users who will use health information to provide safe, quality services. Unauthorized access can be limited by the adoption of policies that address the privacy, security, and integrity of health information.

Depending on the type of laboratory, the system used for information management may be basic or sophisticated. As technology develops, many laboratories find their information management systems in a state of transition from paper to fully electronic or a combination of the two. Regardless of the type of system used, these standards are designed to be equally compatible with noncomputerized systems and evolving technologies.

About This Chapter:

As with other chapters, planning is the initial focus of "Information Management" (IM). A well-planned system meets the internal and external information needs of the laboratory with efficiency and accuracy. Planning provides for continuity in the event that the laboratory's operations are disrupted or fail. The laboratory also plans to protect the privacy, security, and integrity of the data and information it collects, which results in preserving confidentiality. The chapter concludes with a standard on maintaining accurate health information.

Requirements in this chapter apply to all types of information managed by the laboratory, unless the requirement specifically limits the type of information to health information. Refer to the Glossary for a definition of health information.

Chapter Outline:

I. Planning for Management of Information (IM.01.01.01, IM.01.01.03)
II. Health Information
  A. Protecting the Privacy of Health Information (IM.02.01.01, IM.02.01.03)
  B. Capturing, Storing, and Retrieving Data (IM.02.02.01, IM.02.02.03, IM.02.02.05)
III. Knowledge-Based Information (IM.03.01.01)
IV. Monitoring Data and Health Information Management Processes (IM.04.01.01)
V. Laboratory Informatics Systems Records (IM.05.01.01)

EP Attributes Icon Legend:

CMS CMS Crosswalk
D Documentation is required
ESP-1 EP applies to Early Survey Option
NEW EP is new or changed as of the selected effective date.

Program: Laboratory

Enhancement Requests (1)

Auto populate entries to Ask-it-order questions from Electronic Health Record to RPMS

ENHANCEMENT REQUEST #1

Auto populate entries to AOE questions from EHR to RPMS

S-Situation

Can the Ask at Order Entry (AOE) questions (i.e., LMP, PAP, Source, Fasting, etc…) entered by the ordering provider in EHR automatically populate in RPMS when the laboratory staff accession orders with tests that have AOE built into their test files?

B-Background

Currently, the ordering provider will answer the AOE questions for the reference lab test at the time of the lab test order in EHR. When the patient's ref lab test order is accessioned in RPMS, the lab staff have to look up the entries to the patient's AOE questions in EHR and type that information when prompted in RPMS. The information is then printed on the ref lab shipping manifest which is packaged with the patient's specimen.

Laboratories have reported the following issues with typing entries to AOE questions in RPMS:

1. Transcription errors
2. Entries not crossing to the reference lab
3. Process is labor intensive
4. Work is duplicated, already done by the provider at the time the test is ordered.
5. Time loss and minimum use issues when techs go into the patient notes to retrieve the information.

A-Assessment:

AOE questions are required for the reference laboratory to perform testing and use the entry answers to accurately interpret test results. Auto population of AOE questions into RPMS would reduce the time to accession orders with AOE questions and eliminate transcription errors.

Auto population of AOE questions would allow the format of the responses to be controlled and standardized to transfer to reference lab in their preferred format.

R-Recommendation

The Lab PSG charter would like to request an enhancement to have all tests with AOE questions to populate into RPMS when an order is accessioned.

Enhancement Requests (2)

Adding patient identification to each page of the reference lab shipping manifest.

Omitting canceled accession numbers and tests from turn-around-time reports.

Clearing hung order numbers with no accession numbers

Collaboration:

Worked with OIT with the release of Patch 36

How Lab PSG is Involved with Health IT Modernization

Members attend WRAP sessions to map laboratory test workflow (pre-analytical, analytical, post-analytical), identify high-risk areas, and problem solve to develop best practices to build the enterprise electronic health record.

Provide support to the HIT team and other stakeholders.

Anticipate working with the Enterprise Collaboration Group (ECG) to build the enterprise electronic health record.

Once the new electronic health record is implemented, Lab PSG will continue to identify areas for improvement with workflow processes.

Getting ready for the New Electronic Health Record

Remain actively involved with the Health IT Modernization team

Continue attending WRAP sessions

2024 Phoenix Area Goals and Objectives:

Goal #2: *To address the problem of lack of knowledgeable staff that can maintain and troubleshoot the RPMS Laboratory package by providing long distance training, mentorship and written resources.*

Objective #1*: As a member of LPSG, will continue to include PAIHS service unit RPMS lab package needs in future enhancement requests that could involve future lab patches and prepare for the new LIS via the IHS IT Modernization Project and provide a project timeline for PAIHS laboratories begin switching over to the new product by 12/31/24.*

Assess if additional Laboratory Informaticist will be needed to maintain the LIS

Reference Laboratory Interface: Maintenance for Optimum Performance and Challenges

PRESENTER: LCDR MARCIA SAHMAUNT

OKLAHOMA AREA LAB CONSULTANT

LPSG VICE-CHAIR

Challenges in Lab Package Maintenance

1. Lab staff shortages – increased retirements, school closures, etc.
2. Training is comprehensive and requires hands-on experience at least 6 to 9 months.
3. Two Areas have full-time Laboratory Informaticists maintain all service unit packages, interfacing equipment and reference laboratory programming.
4. Most IHS Areas do not enter buy-back agreements with Tribal sites resulting in costly contracts.
5. Limited funds available to install approximately 200 VA patches and HL7 upgrades to allow auto-verification.
6. Obsolete hardware and software that is behind in current lab technology.

Service Now – System Used for Help Desk Ticket Requests – Sites w/no FT Informaticist

Based on history of Informaticist Request for assistance, these can be segregated as below:

10% Clean-up, update and fix lab test builds

20% Build new tests, retiring test builds in File 60

15% Troubleshoot the reference lab interface for results not crossing back into the patient's electronic health record

10% Weekly errors observed on interface log checks

25% Submitting tickets to Tier 3 OIT help desk for Tribal sites and other errors needing programming assistance

20% Training or forwarding self-help literature to Federal and Tribal/Urban sites.

Vendor Contracts

There are only a few Vendors that can be used for the Reference Laboratory Bi-directional interface and they are listed at https://www.ihs.gov/Lab/reflabinterface/

How it works?

A contract must be exist and should include the scope of work for the interface including a project plan. Requires Information Security wording/HIPAA.

A virtual private network (VPN) connection must be set up between the vendor and the facility.

Test orders are place in EHR or RPMS and the middleware transmits the orders to the Vendor. Once results are completed, the Vendor sends the results back to the facility.

Why is this Lab Package so Cumbersome?

Planning for Implementation:

- Contractor will supply programmer support, your lab needs a skilled informaticist to complete the test build, the interface file, the load/worklist to add orderable test, mapping the test to the reference lab's tunnel, and add the CPT code for billing purposes.
- Implementation can last anywhere from 4 months to 8 months in length. At least a total of 500 tests will need to be build for single and panel tests.
- OIT Tier 3 Support can assist you in troubleshooting, but will not likely build the test for you, will instead teach you and watch you build tests.
- There are many ways errors can occur and mostly the end user lab staff will let you know if they can't verify the test result to transmit across to the patient's EHR.

Contingency Planning

- Accreditation requirements state that the laboratory must have written processes in the event the LIS goes down and/or the reference laboratory interface goes down.
  - Return to manual reporting of results via equipment printed results or manually written results onto a pre-printed results form.
- Real-life nightmare for Oklahoma Area
  - Our labs do not necessarily have a scenario in which the reference laboratory was hit with a ransomware and they could not receive or result tests ordered by their laboratories.
  - Lab quickly wrote a policy in which the VPN tunnel was shut down.
  - Eventually, a new tunnel was configured with all new tests rebuilt. Yikes!!

Recommended Maintenance

- As with your vehicle, your laboratory package also needs to be maintained for smooth performance.

1. Check Link Transaction Processor daily (PCC linker).
2. Monthly, purge shipping manifest file, clear instrument file, & clear entries in LA7 Message Queue File.
3. Quarterly, Run Diagnostic Routine Report File 64.5 & Check LRTASK ROLLOVER
4. Semiannually, Check Files for Inconsistences.
5. Yearly, delete prior 5th year in Accession File for Send outs.
6. After the Lab Accreditation survey is done every 2 years, Purge Old Orders & Accessions File 69.9.

Tips for Successful Interfacing of Laboratory Equipment

PRESENTER: LCDR MARCIA SAHMAUNT,
OKLAHOMA AREA LAB CONSULTANT
LPSG VICE-CHAIR

Resources to Assist the Lab Informaticist

If you are involved with an interfaced instrument, you probably should become familiar with the files and "lingo" involved in interfacing an instrument. This section will use terms such as global (In the MUMPS language, a global is a tree-structured data file stored in the common database on the disk) and handshake (A method for controlling the flow of serial communication between two devices, so that one device transmits only when the other device is ready). For those of you who are LIMs, further details are to be found in the Technical Manual.

https://www.ihs.gov/Lab/instrumentinterfacing/

Lab Informaticists know the challenges of interfacing lab equipment.

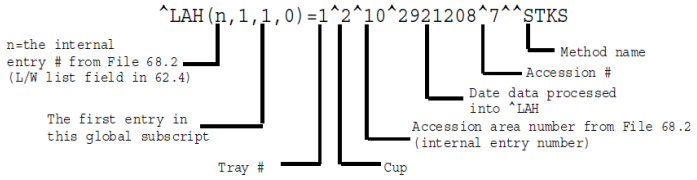
- RPMS lab package test builds and files completion
- Connection between the RPMS and the equipment
- Programming the interface middleware for connection & communication
- Testing and Troubleshooting the interface

Reading the Data Stream

Preparing for Successful Interfacing of Equipment:

1. Know the resources you have, borrow written instructions from other Informaticists.
2. Join the OIT RPMS lab package office hours held weekly on Tuesdays for a question and troubleshooting session.
3. Join a group of informaticists and help each other.
4. Take advantage of all training sessions that are posted for the general laboratory staff.
5. Train your lab staff well in using the lab package and provide troubleshooting algorithms to them.

- **The normal identifier node in ^LAH looks like this:**



Data Innovations Interface Middleware (1)

1. Attend the vendor's user classes that will help you map fluids to the test build name in RPMS File 60.
2. Learn how to run specimen tracers and configure settings within the middleware program.
3. Make sure a contract is in place for service and support.
4. Review the various tools provided by the vendor that can be used for preparing reports and statistical studies.
5. Learn what each component is used for interfacing equipment as it might require external connections that are not TCIP/IP.
6. Borrow written instructions or power point presentations from other Lab Informaticists.

Data Innovations Interface Middleware (2)

7. Make sure your software version is at the most current version.

8. If all else fails, open a Tier 3 OIT Support ticket for assistance.

Checklist For Instrument Interface

It is to the user's advantage to have a familiarity with this checklist for troubleshooting purposes.

1. Instrument must be transmitting data.
2. Correct baud rate:
   - instrument baud rate = interface instrument port baud rate
   - host system baud rate = interface system port baud rate
3. Echo device defined (for system).
4. LAB program routine must be running.
5. MUX program baud rate is correct.
6. ZTM program routine must be running (Task Manager).
7. AUTO INSTRUMENT file is defined correctly.
8. Input lines are wired correctly.

Explosion of Point of Care Devices and It's Effects

PRESENTER: ARLINDA LEE,

PHOENIX AREA LAB CONSULTANT

NLPC CHAIR

Increase in Point of Care Testing

What is it? Bedside testing or easy tests performed outside of the core laboratory (example is drug store pregnancy test)

- In 1993, there were only 9 tests, then an increase of 39%, post-COVID pandemic happened.
- Real need for screening test results within 15 minutes. Why? Lab staffing shortages, even provider shortages . . .
- Issue is how to get accurate results into the patient's record.

Solution ⇒ Interfacing POC equipment (automated)

What about manual test entries?

Bureau of Labor Statistics states 4,900 students graduate yearly, but >9,000 jobs are open. State 46% vacancy rate for CLS & MLT.

IHS Chief Medical Officer Directive – October 25, 2022

Good afternoon colleagues,

Unfortunately, there is a surge in syphilis cases in Indian Country. After conferring with the IHS Infectious Disease Consultant, it is imperative that definitive action be taken to address STIs at all sites across the agency. Therefore, the following should be done at each service unit and community-based testing coordinated with your community health teams and public health nursing.

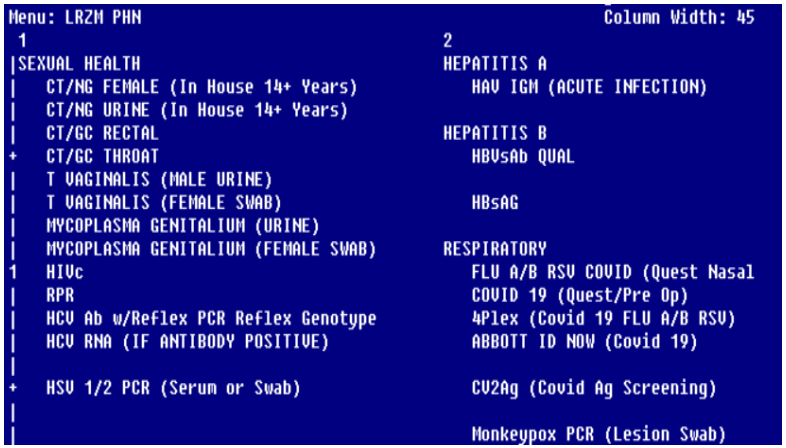
- **Annual syphilis testing** for persons aged 13-64 to eliminate syphilis transmission by early case recognition. An annual EHR reminder **should be** turned on at all sites to facilitate testing for two years or until incidence rates decrease locally to baseline.
- Adoption of an **STI/HIV/Viral hepatitis testing bundle** at all sites to screen broadly:
  - Syphilis screening test with reflex RPR and TPPA
  - HIV serology (with documentation of consent if required in the local state jurisdiction)
  - Screening for gonorrhea and chlamydia at three sites: Urine, Pharynx, Rectum
  - Screening for hepatitis B and C
  - Pregnancy test
- Adoption of **"Golden Ticket Testing":** On-demand, no-provider/no nurse lab visits for testing, including the above bundle
- **Enhance screening rates by screening out the hospital/clinic in the community**
  - Field testing at Chapter House or equivalent community centers, Health Fairs, community events
  - Utilization of IWTK (I want the kit) self-testing (For information, contact Rick Haverkate)
- **Field treatments for syphilis** by PHNs with Benzathine Penicillin. (For questions, contact Tina Tah or Melissa Wyaco)

Let's work together to address this serious issue!!

L. Christensen MD MBA MSJ FACS, Chief Medical Officer, Indian Health Service

Laboratory's Response to this Directive

- Initially, lab managers reviewed their testing capability to perform syphilis screens in their core laboratories or waived test programs.
- Waived test programs comprise at least 60% of all IHS-wide labs.
- In 2024, there is move for all labs to bring in waived testing of syphilis first then the other STI's.
- Labs were involved in the STI clinic walk-in service as well as patient self-collection of samples to be sent to the core or reference laboratories for testing.
  - There are two common waived test methods:
    - Syphilis Health Check (antibody screen)
    - ChemBio rapid HIV+Syphilis antibody screen



Will Interfacing Equipment Decrease Turnaround Times?

- Majority of these tests are manual tests and remainder are automated POC devices that can be interfaced for automatic transmission to the E.H.R.
- Connectivity demands increased exponentially with adding other devices other than whole blood glucose test monitors.
- Challenges:
  - Shortage of Lab Informaticists in programming files beyond building tests
  - No area-wide or IHS-wide contract for interface middleware [RALS is most common product & Phoenix Area uses COBAS IT 1000]
  - No OIT technical support for these site developed interfaces
  - Will Artificial Intelligence (AI) and Machine Learning (ML) help?

PAIHS Lab's Interface Middleware

Interface project began in 2017 with Roche Diagnostics interface product for the Accucheck Inform II glucose meters.

The interface was using the VistaA Point of Care lab package. Our programmer loaded up numerous patches before work can be started.

I assisted in following the VA System's product implementation guide to set up many files.

Our programmer worked with the vendor's programmer to finally set up five service units to the server that is at the Area Office IT room.

In October 2018, we finally went live! The results were attached to the ordering provider and clinic/ward location along with the tester's identification.

Then We Had Problems . . . .

- The server database could only be opened with Microsoft Edge.
- This Silverlight is due to expire and we need to upgrade our program to switch to Chrome.
- Lot of work still being done on getting approval on the SSA forms required for the programming work and upgrade.
- Lesson learned:
  - Technology changes rapidly, software updates, new security rules
  - Programmer retired, should have prepared in advance
  - In hindsight, we should have added other automated POC devices
  - Technology costs money and it keeps increasing
  - Largest IHS hospital is PIMC with >600 waived testers, no workable contingency plan

Is Wi-Fi and AI the Answer?

Wi-Fi connectivity for automatic transmission of POC devices to the patient's electronic health record requires FedRAMP approval.

Chatbots – can be used by testers on performing POC tests step-by-step for accuracy and quality.

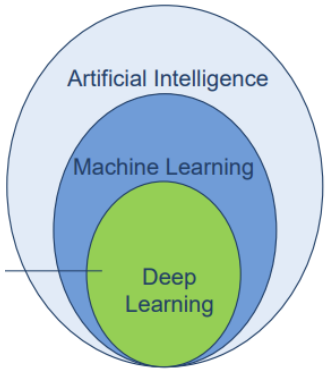
Generative AI for producing synthetic data – could be used to help with AI/ML quality control and proficiency testing.

"Medical" Sensor Fusion – integration of multiple sources into meaningful and actionable results.

Patient's home monitoring devices (smart watches and phones) generate data to predict a range of diseases.

THIS IS THE FUTURE! LEARN, LEARN, LEARN

AI/ML is already here and its changing our lives!



References:

- CDC Webinars on Point of Care Testing
- POC Webinars Whitehat Communications
- CAP Today

Review of RPMS Lab Package and its Complexity

PRESENTER: KARLA MANKOFF,

PORTLAND AREA LAB CONSULTANT

NLPC VICE-CHAIR

RPMS LR Package: What does it do?

The Laboratory package automates the manual procedures used in the following laboratory areas:

1. Ordering of tests and procedures on both patient and non-patient specimens
2. Collection and Accessioning of specimens into the Laboratory data base
3. Processing and analysis in appropriate department or work areas
4. Review and verification of results
5. Reporting of results and/or diagnoses for clinical health care treatment
6. Analysis and reporting of quality control data used in generating results
7. Providing management statistical data as well as requirements for accreditation by regulating bodies and agencies

RPMS LR Package: Who Uses It?

The Health Care Provider:

- The module provides a method for the provider to place requests into the system for collection and analysis of patient specimens. It also provides a means of tracking work activities to completion and reporting. When results become available, users may view the results in a variety of formats.

The Pathology and Laboratory Service:

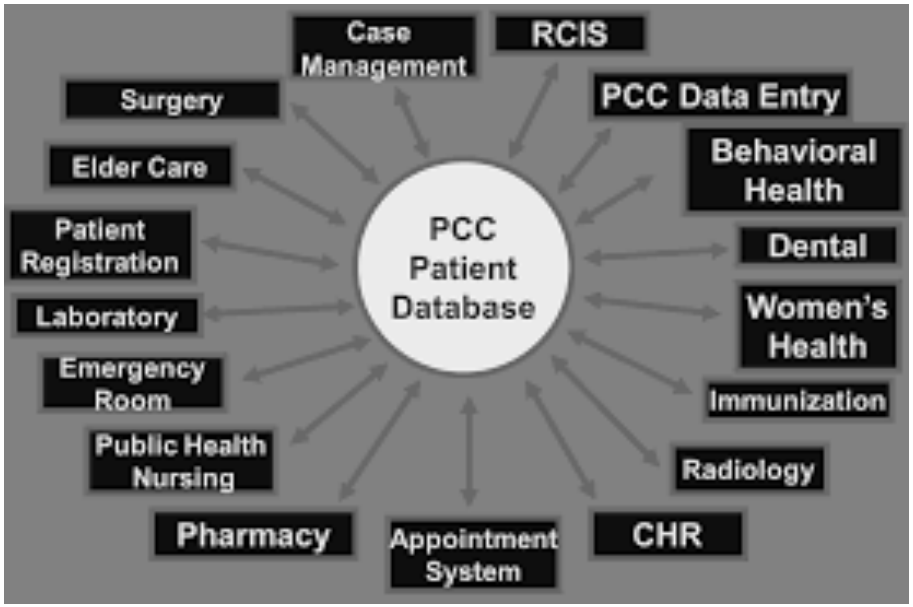
- The module provides methods for identifying and processing the workload.
- All processing labels, accessioning numbers and work sheets are automated.
- Test result values are accepted from manual input and/or automated instruments.
- Test data is displayed and reviewed by laboratory personnel for accuracy.
- Data is not available for clinical use until of data has been verified by appropriate Laboratory personnel.
- After verification, the results can be automatically distributed by the module to appropriate locations.
  - Data are provided for management reports and administrative support.
  - Data are collected to satisfy regulatory bodies who accredit the institution. These data are available on demand.

Lab Package is Most Difficult

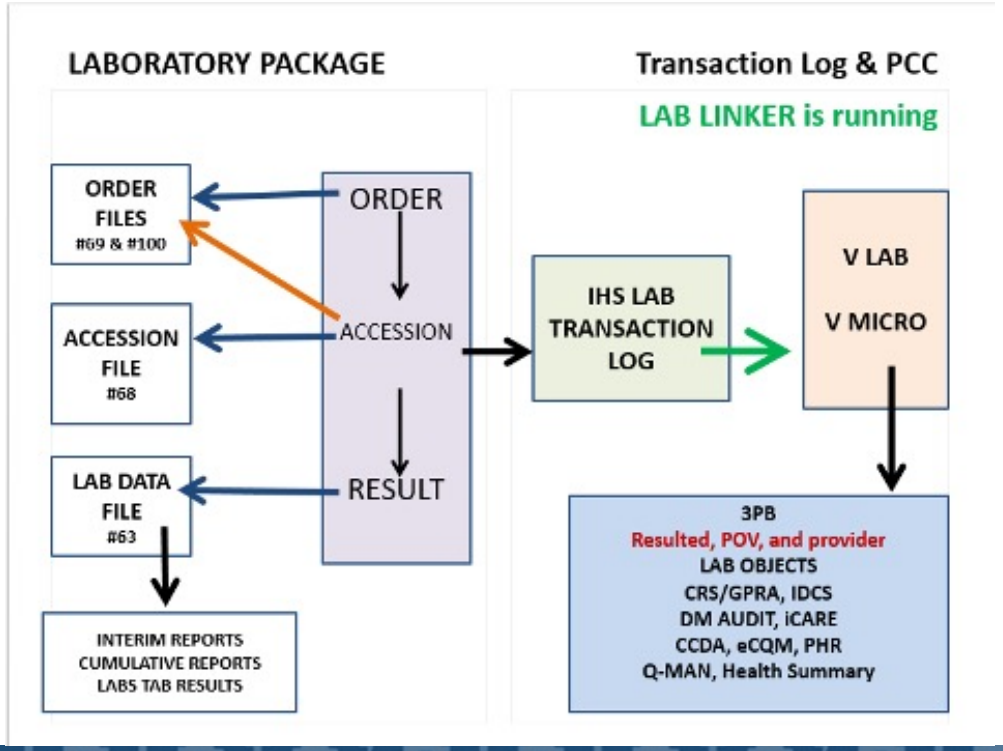
- The laboratory package is huge in comparison to the Pharmacy and Radiology packages combined.
- There are many delicate steps when programming the files required to build new laboratory tests. Novice users have high risks of creating a fatal error that will affect other programs. Think of dominoes . . . .
- Learning to troubleshoot the interfaces of both laboratory equipment and the reference laboratory virtual private network takes enormous amounts of time and may involve meeting with outside vendors and programmers.
- LOINC mapping test names is time consuming and requires keen knowledge of laboratory test methods and principles.

RPMS LR Package: How Does it Work?

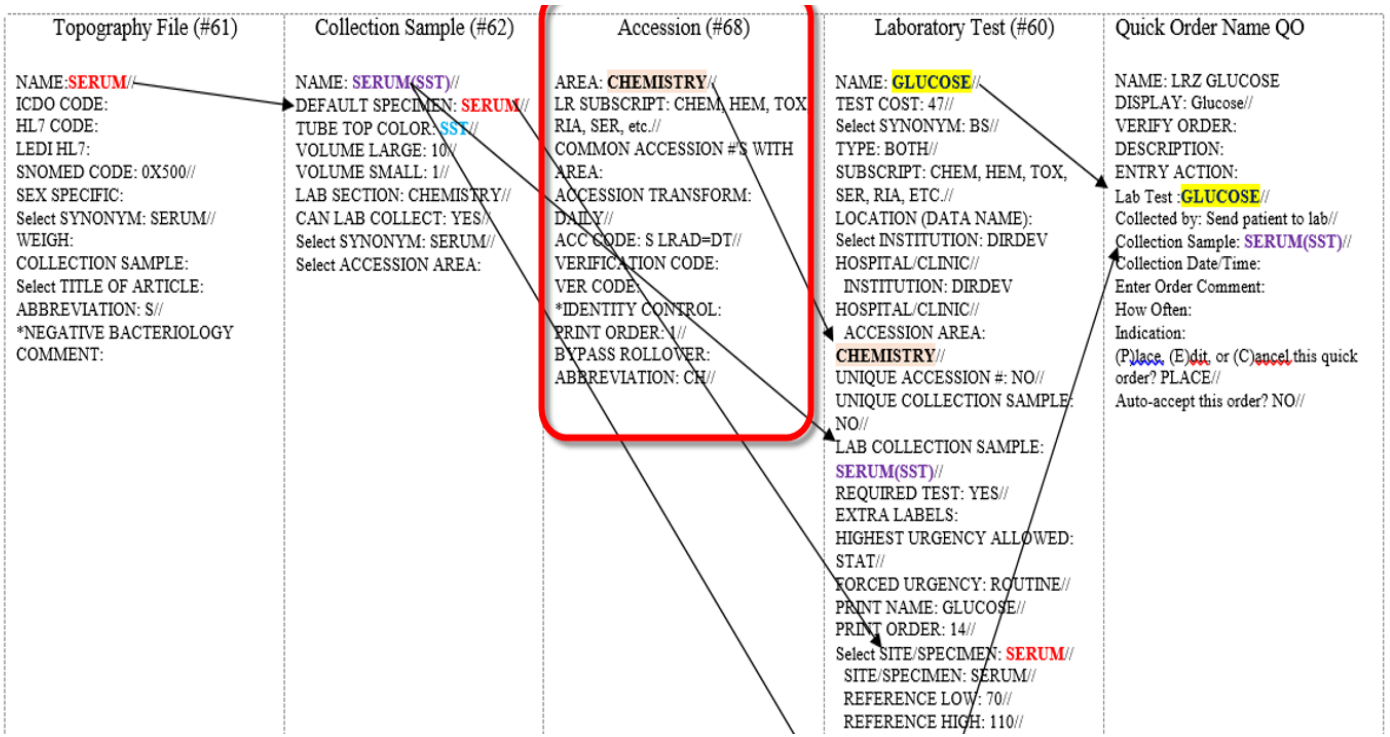
RPMS Packages submit data to the Patient Care Component (PCC).



RPMS Laboratory Reference (LR) Package



RPMS Laboratory Reference (LR) Package



RPMS LR Package: Intimidating Details!

- Naming Conventions
- Taxonomies and GPRA
- SNOMED and ICD-10
- CPT codes
- LOINC
  - Laboratory reporting harmonization
  - Transition of historical data to new EMR

Alpha and Beta Testing Process of Lab Patches

CDR KAREN ROMANCITO

OIT RPMS LAB CONSULTANT

Enhancement Requests

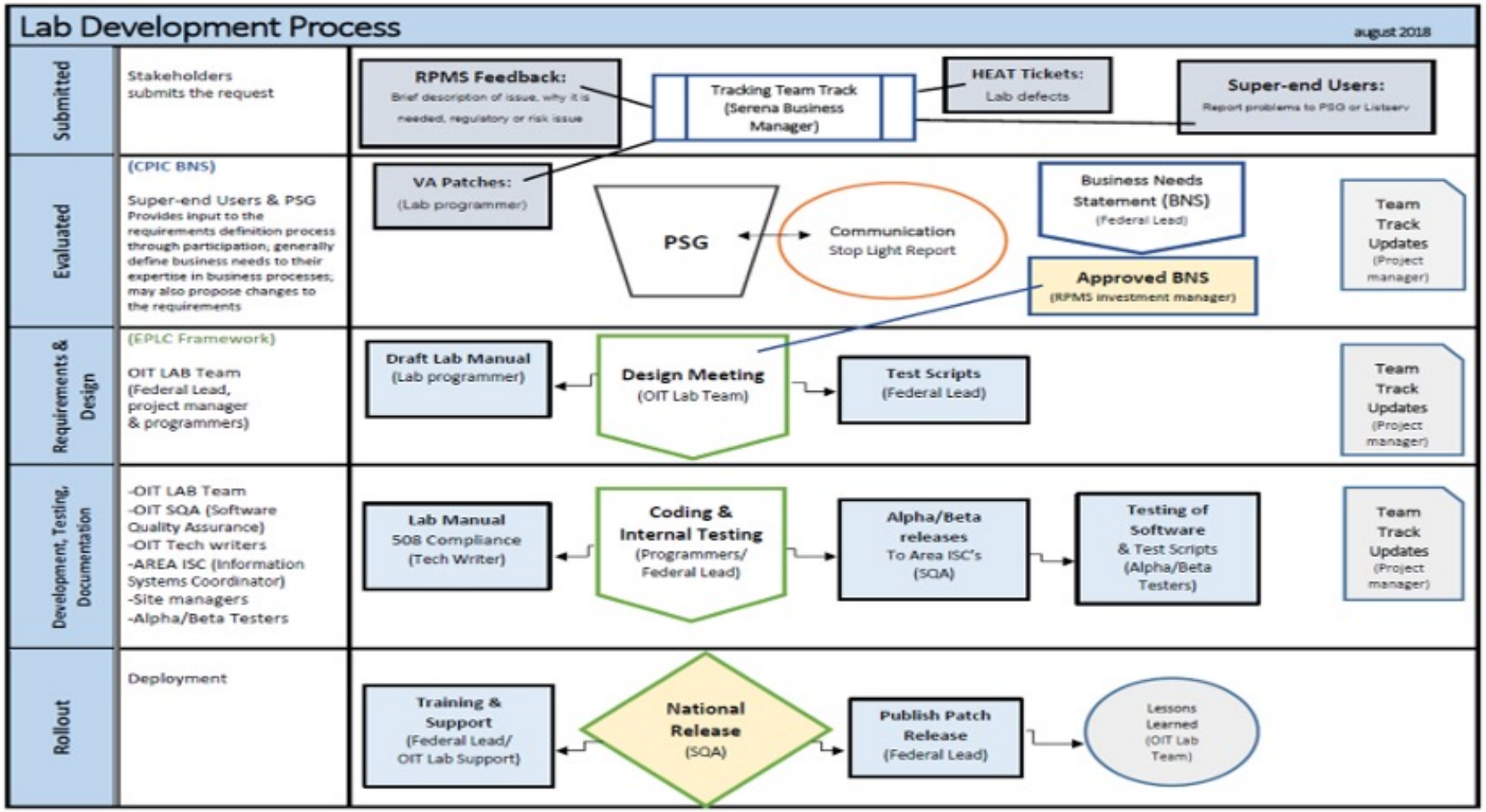
When an end user of the RPMS laboratory package observes an issue that may require a fix, an enhancement request is submitted at

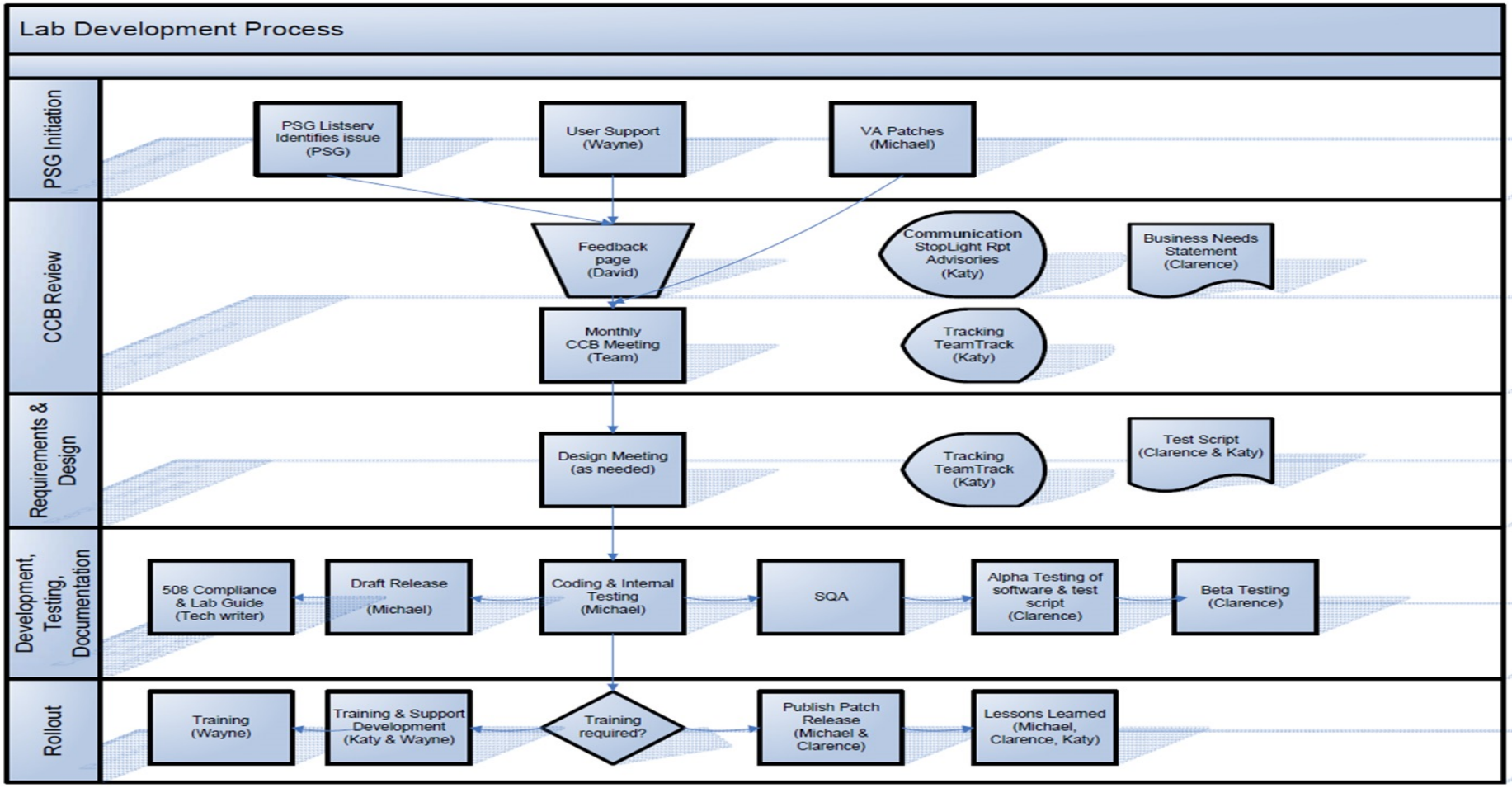
The Lab PSG member will receive the request and discuss the information at the next scheduled meeting.

The group votes on approving the escalation to the OIT Laboratory Consultant or disapproves the request.

The group also discuss other observations that may occur after a new patch upload and request the programmer develop a fix that will correct the error(s).

DISCLAIMER: Please note the following algorithms' processes may have changed in the past 5 years.


Lab Development Process
august 2018
Submitted
Stakeholders submits the request
RPMS Feedback:
Brief description of issue, why it is needed, regulatory or risk issue
Tracking Team Track (Serena Business Manager)
HEAT Tickets:
Lab defects
Super-end Users:
Report problems to PSG or Listserv
Evaluated
(CPIC BNS)
Super-end Users & PSG
Provides input to the requirements definition process through participation, generally define business needs to their expertise in business processes; may also propose changes to the requirements
VA Patches:
(Lab programmer)
PSG
Communication
Stop Light Report
Business Needs Statement (BNS)
(Federal Lead)
Approved BNS
(RPMS investment manager)
Team Track Updates
(Project manager)
Requirements & Design
(EPLC Framework)
OIT LAB Team
(Federal Lead, project manager & programmers)
Draft Lab Manual
(Lab programmer)
Design Meeting
(OIT Lab Team)
Test Scripts
(Federal Lead)
Team Track Updates
(Project manager)
Development, Testing, Documentation
-OIT LAB Team
-OIT SQA (Software Quality Assurance)
-OIT Tech writers
-AREA ISC (Information Systems Coordinator)
-Site managers
-Alpha/Beta Testers
Lab Manual
508 Compliance
(Tech Writer)
Coding & Internal Testing
(Programmers/ Federal Lead)
Alpha/Beta releases
To Area ISC's
(SQA)
Testing of Software
& Test Scripts
(Alpha/Beta Testers)
Team Track Updates
(Project manager)
Rollout
Deployment
Training & Support
(Federal Lead/ OIT Lab Support)
National Release
(SQA)
Publish Patch Release
(Federal Lead)
Lessons Learned
(OIT Lab Team)


Lab Development Process
PSG Initiation
PSG Listserv Identifies issue (PSG)
User Support (Wayne)
VA Patches (Michael)
CCB Review
Feedback page (David)
Communication StopLight Rpt Advisories (Katy)
Business Needs Statement (Clarence)
Monthly CCB Meeting (Team)
Tracking TeamTrack (Katy)
Requirements & Design
Design Meeting (as needed)
Tracking TeamTrack (Katy)
Test Script (Clarence & Katy)
Development, Testing, Documentation
508 Compliance & Lab Guide (Tech writer)
Draft Release (Michael)
Coding & Internal Testing (Michael)
SQA
Alpha Testing of software & test script (Clarence)
Beta Testing (Clarence)
Rollout
Training (Wayne)
Training & Support Development (Katy & Wayne)
Training required?
Publish Patch Release (Michael & Clarence)
Lessons Learned (Michael, Clarence, Katy)

Getting Ready for the New Lab Information System

PRESENTER: CASEY KILLS PRETTY ENEMY, BSCLS

IHS LABORATORY INFORMATICS CONSULTANT

HEALTH INFORMATION TECHNOLOGY MODERNIZATION PROGRAM

Health IT Modernization
Executive Summary

To fulfill its mission to deliver comprehensive health care across Indian Country, the IHS will provide an enterprise electronic health record solution to Tribes, Urban Indian Organizations, and IHS sites of care.

Sustainable Funding

from Congress to maintain and operate a modernized health IT infrastructure.

Stabilize

the support system through an enterprise approach that includes staff training, business processes, and technology maintenance.

Liberate Data

to ensure it is accessible across the enterprise by clinicians, patients, and partners alike to improve safety, quality and patient outcomes.

Need for Health IT Modernization

After a system-wide analysis and Tribal Consultation/Urban Confer, the IHS determined the need to fully replace RPMS in order to fulfill its mission.

INTERNAL FINDINGS

Outdated System

The Resource and Patient Management System (RPMS) has served the I/T/U for **more than 40 years**.

Creates Challenges

Technology advances, the regulatory environment, and the distributed deployment model created **significant challenges** for RPMS development and operations.

Significant Dependencies

The U.S. Department of Veterans Affairs' **VistA system is scheduled for replacement** – affecting the IHS dependencies.

EXTERNAL FINDINGS

Unsustainable

The HHS/IHS Health IT Modernization Research Project (2018-19) confirmed that **RPMS is unsustainable**.

Several independent audits **identified challenges in the current health IT systems**, calling out the need for Modernization.

Need for Health IT Modernization

After system-wide analysis and Tribal Consultation / Urban Confer, the IHS determined to fully replace RPMS in order to fulfill its mission

The Resource and Patient Management System (RPMS) has served the I/T/U for over **40 years**

Technology advances, the regulatory environment, and the distributed deployment model have created **significant challenges** for RPMS development and operations

The U.S. Department of Veterans Affairs' **VistA system is scheduled for replacement – affecting IHS dependencies**

The HHS/IHS Health IT Modernization Research Project (2018-19) confirmed that **RPMS is unsustainable**

Several independent reviews identified opportunities for modernization of **Health IT to improve American Indian and Alaska Native patient care**

Selected Enterprise EHR Vendor (2)

The IHS selected **General Dynamics Information Technology, Inc.** (GDIT) to build, configure, and maintain the new IHS enterprise EHR solution that uses Oracle Health technology

GENERAL DYNAMICS
Information Technology

ORACLE
Health

Competition was full and open, rigorously adhered to Federal Acquisition Regulations, engaged hundreds of I/T/U end-users in product demonstrations, and culminated in a 10-year Indefinite Delivery / Indefinite Quantity contract with GDIT.

Getting Ready to Get Ready Guide

The Getting Ready to Get Ready Guide (GRTGRG) is a tool provided to IHS/tribal/urban (I/T/U) sites to assist with preparations for implementing the new enterprise EHR.

Key Staffing Positions

Ensure any staffing vacancies are filled early so that the workforce can participate in planning for EHR transition and training

Revenue Cycle Operations

Assess revenue cycle operations to ensure backlogs in billing, accounts receivable and purchased/referred care are minimal

Biomedical Devices

Identify biomedical point of contact (POC) and inventory biomedical equipment

Agreements and Licenses

Assess all agreements and licenses with states, federal or private organizations to determine any impacts with EHR transition

Continuity of Operations

Review Continuity of Operations Plans and identify a POC to discuss network connectivity and usage

II. KEY STAFFING POSITIONS

Prioritize your people

- Assess your staffing, identify critical vacancies, and fill them
- Not just IT vacancies, but any positions, especially in leadership, across all disciplines.
- It takes time to fill vacancies, so it is never too early to start

Identify “change champions”

- People in virtually any role across your organization who are early adopters and natural leaders, and who can provide the enthusiasm and positive energy to help your site be successful with modernization

IV. CONTINUITY OF OPERATIONS PLAN OR DOWNTIME PROCEDURE

Downtime Procedure – in place and up to date?

Do contingency plans include what to do when reference lab interfaces go down?

Review of manual forms if needed to ensure they are up to date, i.e., Change of instrumentation

Orientation – include continuity of operations plan/procedure

VII. BIOMEDICAL DEVICES

Current inventory list of laboratory instruments that are currently interfaced.

Instruments that are not interfaced, but have the capability to be interfaced.

Instruments that currently cannot be interfaced, but possibly may be interfaced with the new system, for ex. micro instruments

VIII. CONTRACTS AND AGREEMENTS

It will be important to have a good pulse on laboratory contracts (base + 4) - wouldn't be ideal to be implementing a new chemistry analyzer at the same time that a new EMR is being deployed.

When in doubt work with your COR and/or Contracting Officer

Other Considerations….

Biennial Laboratory Inspections:

COLA Blackout Date - A maximum of ten (10) blackout dates are allowed. A blackout date is a date that you are unable to accommodate a survey.

Joint Commission - affords initial and resurvey laboratories up to 10 “avoid dates” on their application

CAP – Allows laboratories to identify up to 10 blackout dates on reapplication.

CLIA – Do not afford their certified labs black out/avoid dates, will contact the site on survey scheduling.

LOINC CODES – Ensure they are in place and correct

For more information about the IHS Health Information Technology Modernization Program visit the IHS website https://www.ihs.gov/hit/ or contact

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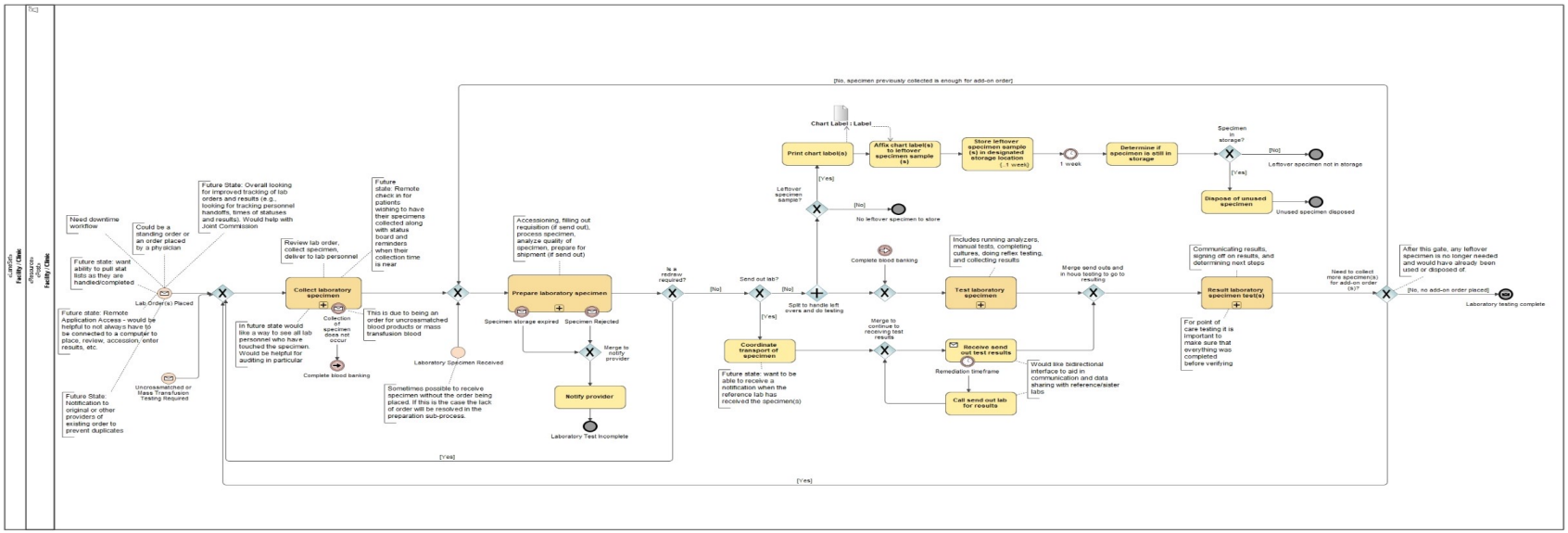
Sign up for Health IT Modernization Program updates at
https://www.ihs.gov/listserv/topics/signup/?list_id=611

EHR Modernization WRAP Business Process Model

LABORATORY

Laboratory BPM WRAP Model

Diagram name	Perform Labs
Author	smgomez@mitre.org
Creation date	7/12/24, 9:11 AM
Modification date	7/24/24, 9:14 AM
Last modified by	smgomez@mitre.org
Documentation	This diagram depicts the processes within laboratory including collection of specimen(s), the preparation of specimen(s), the testing of specimen(s), and the resulting of the specimen tests.
Exclusion Criteria	Patient does not require laboratory testing or has not had any specimen(s) collected.
Inclusion Criteria	Patient requires laboratory testing or has had specimen(s) collected.
Post Condition	Appropriate laboratory tests have been completed and results were communicated.
Pre-Condition	A lab order has been placed in the system for a patient or specimen(s) have been collected for a patient to be tested.
Completion Status	Ready for ECG



CONCLUSION & WRAP UP

PRESENTER: ARLINDA LEE, PHX AREA LAB CONSULTANT & NLPC CHAIR

What I have Learned

First timer for this conference, introduced our group and its functions and goals.

The large number of files, interfaces and programs that has to be maintained.

Understood why a few select Lab Informaticists are difficult to find.

IHS is behind in its IT technology and with the new LIS, will need to adapt quickly for an ever upgraded world.

The PSG is dedicated to assisting all Lab folks as well is ready to meet the future development of the new and improved LIS!

Question and Answer Session


INDIAN HEALTH SERVICE
PHS · 1955 ·